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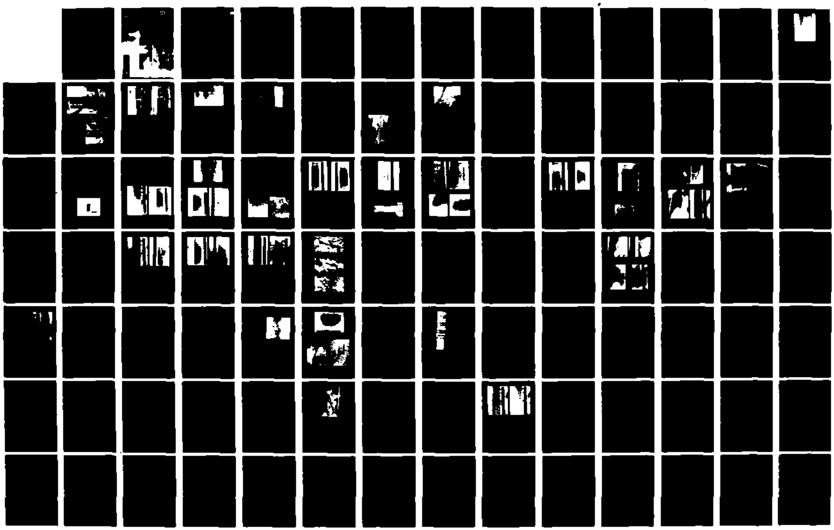

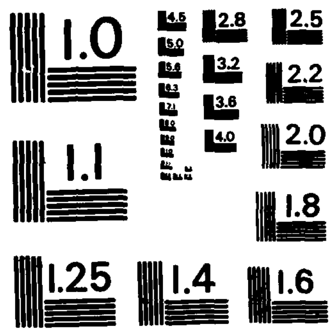
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US Army Corps of Engineers
Cold Regions Research & Engineering Laboratory

An experimental investigation of potential icing of the Space Shuttle external tank

CRREL Report 82-25

September 1982

An experimental investigation of potential icing of the Space Shuttle external tank

M.G. Ferrick, K. Itagaki, G.E. Lemieux, and S.E. Minas

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The thermal protection system tiles on the Space Shuttle orbiter are extremely sensitive to impact damage. Such impacts could be caused by ice particles dislodged from the outer surface of the external tank (ET) during the launch. The ET, which contains the cryogenic propellant tanks, is covered with a spray-on foam insulation (SOFI) to minimize ice formation. The objective of this investigation was to experimentally explore a range of environmental conditions for which significant icing potential exists for the ET.

A significant finding, which became evident early in the experimental

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program, was that computer models based upon the average SOFI thickness predicted panel surface temperatures that were considerably higher than those observed. For an assessment of icing, the important values to characterize the SOFI are the minimum thickness and range of thickness. Dense ice formation occurred most readily when a small portion of the total surface area had a temperature below freezing. These minimum thickness points were the eventual locations of the ice formations. Other parts of the surface, having temperatures above the freezing point, served as moisture sources due to vapor condensation.

Three ice formation processes were identified:

1. Freezing-in-place of condensed water.
2. Formation of dense ice due to water rundown into areas containing frost.
3. Freezing of migrating water in the form of drops or rivulets.

Ice formation of a size beyond that specified as hazardous to the thermal protective tiles of the orbiter was observed in all tests having liquid water available on the surface.

Polyethylene glycol was applied to the SOFI surface and tested as an approach to ice suppression. The three compounds tested were basically successful in this capacity except at the thinnest SOFI spots. Serious questions remain, however, concerning the longevity of the coating during high moisture availability conditions. A forced air flow on the panel was found to be an effective and fast-acting icing control technique.

PREFACE

This report was prepared by Michael G. Ferrick, Hydrologist, and Dr. Kazuhiko Itagaki, George E. Lemieux, and Susan E. Minas, Physicists, Snow and Ice Branch, Research Division, U.S. Army Cold Regions Research and Engineering Laboratory. Instrumentation and experimental procedures were developed as necessary by Dr. Itagaki. Mr. Lemieux and Ms. Minas performed the bulk of the experimental work and data management.

The work was funded by the Department of the Air Force out of P-3600 funds, and was monitored by Lt. Mark Nussmeier, USAF Space Division.

The technical content of the report was reviewed by Stephen Ackley and Dr. George Ashton of CRREL, Harry Goedde of Aerospace Corp., Richard Sosnay and Lee Owens of Martin Marietta Corp., and Lt. Nussmeier and Lt. Karl Seelandt of the U.S. Air Force.

The authors thank several people who were instrumental in the successful and timely completion of this study. The cryopanel used in the experiments was designed by Larry Gould; parts were fabricated by Frederick Gernhard; and welding was performed by Frank Perron, all of CRREL. Gerald Bettis, James Murphy and Stephen Pugh of CRREL designed and constructed the piping system for the cryogenic fluids. Finally, the authors thank Richard Sosnay for his help with several experiments, numerous inputs to the project and enthusiastic support.

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AN EXPERIMENTAL INVESTIGATION OF POTENTIAL ICING OF THE SPACE SHUTTLE EXTERNAL TANK

M.G. Ferrick, K. Itagaki, G.E. Lemieux, and S.E. Minas

INTRODUCTION

The thermal protection system tiles on the Space Shuttle Orbiter are extremely sensitive to impact damage. Such impacts could be caused by ice particles dislodged from the outer surface of the external tank (ET) during the launch.

The ET, which contains the cryogenic propellant tanks, is covered with a spray-on foam insulation (SOFI) to minimize ice formation. Preliminary analyses of the environmental conditions at the Vandenberg Air Force Base (VAFB) launch site indicate that it is significantly cooler than the Florida launch site much of the time, increasing the chance of problems due to icing. Additional ice suppression systems are, therefore, being considered to allow a greater probability for launch during the cooler months at VAFB.

The tests reported upon here were conducted to fill a large gap in the existing data. Thermal analyses that rely upon assumptions suspected of being overly conservative have concluded that an additional ice suppression system may be necessary at VAFB. Previous test results have not provided sufficient information to verify the analyses. The objective of this investigation was to experimentally explore a range of environmental conditions that occur at VAFB and for which significant icing potential exists for the ET. This information will foster an improved basic understanding of the icing phenomena and provide data to test the accuracy of the heat and mass transfer models that are used to investigate ET icing.

As wind provides heat to the surface of the ET, a critical condition for icing occurs when natural convection generates the dominant flow. Our experiments were designed to explore ET icing under these flow conditions using a large 4- x 15-ft (1.22- x 4.57-m), flat, vertical cryopanel covered with different thicknesses of flight-grade SOFI on either side. A panel height of 15 ft (4.57 m) was selected to ensure that turbulent boundary layer flow would exist over a major portion of the panel to properly simulate the flow near the ET. The panel was filled with liquid nitrogen (LN_2) to simulate the temperature of the cryogenic fuels contained in the ET.

A series of 14 tests were conducted in a dominantly natural convective flow environment for a range of environmental conditions at VAFB and suspected of spanning the range of critical conditions for icing potential. Test duration was approximately 5 hours from the start of LN_2 loading, equivalent to the time available for ice formation on the ET.

Specific objectives of the experimental program were:

1. To provide input to test the accuracy of the computer models used to predict SOFI surface temperature and icing rates on the ET, in a turbulent, natural convection flow environment.

2. To provide information concerning the condensation rates and condensation rundown rates occurring on a SOFI-covered surface.

3. To determine the frost/ice accretion rates on a SOFI-covered surface during mass transfer limited conditions, without the presence of condensate rundown.

4. To determine the ice accretion rates during condensate rundown conditions.

5. To test the effectiveness of polyethylene glycol (PEG)* as a freezing point depressant when used on the SOFI surface during icing situations.

6. To investigate other icing control strategies which may be effective.

CRYOPANEL

A SOFI-coated flat aluminum panel, which is 1/10th the length and about 1/20th the circumference of the ET, offers enough similarities to permit a valid investigation of the flow field and ice formation processes that occur on the ET. The cryopanel is an aluminum weldment constructed with type 6061-T6 alloy. This alloy was chosen because of availability from vendor stocks, good strength and ductility at cryogenic temperatures, and relative ease of welding.

The cryopanel is a thin, rectangular panel, 15 ft (4.57 m) high x 4 ft (1.22 m) wide x 2-3/8 in. (6.0 cm) thick before the insulation was applied (Fig. 1). The length and width dimensions given in Figure 1 include the SOFI thickness. Its outer skin is a 0.19-in. (0.48-cm) sheet. Two-inch (5.1-cm) aluminum channel is used to space the skins apart and for the frame. The spacer channels are in a lattice formation of roughly 12-in. (30.5-cm) squares.

A flat panel is a difficult shape for a pressure vessel. The cryopanel is "quilted" for strength with 2-3/8-in.- (6.0-cm-) long tie rods which pierce it on 6-in. (15.2-cm) center lines over the entire surface. These tie rods are welded securely to the skin on each side of the panel.

*Three types of PEG were tested: PEG 4000, a PEG 1000/400 mixture, and PEG 6000. The number corresponds to the molecular weight of the compound.

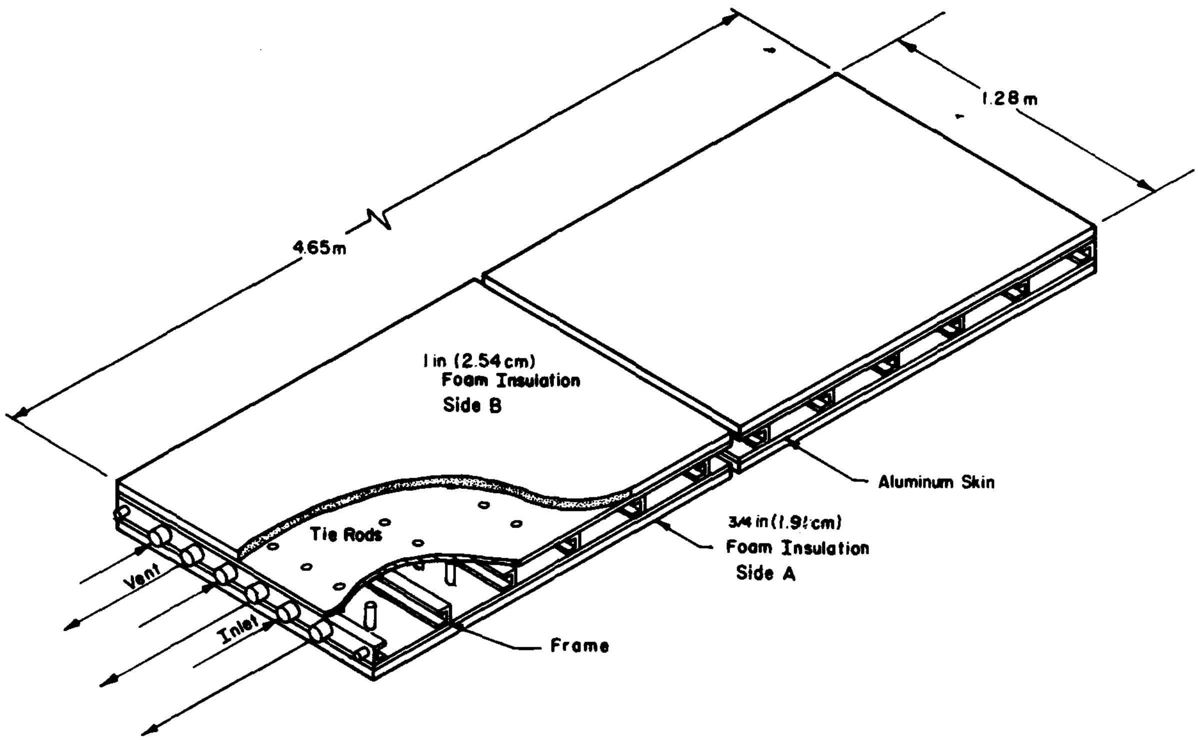


Figure 1. Sketch of cryopanel showing basic features.

They act in pure tension to resist the loads caused by the fluid static pressure of the liquid nitrogen column.

The highest anticipated operational pressure for the cryopanel was 7 psi (48 kPa). The panel was statically tested at 16 psi (110 kPa) after completion of welding. A liquid nitrogen loading test was then done (Fig. 2) to test the welds at cryogenic temperature. Three top vents, each 1 in. (2.54 cm) in diameter, guard against overpressuring the panel due to boil-off of LN_2 during testing. The Martin Marietta Corporation at Michoud, Louisiana, applied flight-type SOFI to the surface of the panel. One side of the panel was coated with nominal 1-in. (2.54-cm) SOFI (side B), and the other with nominal 3/4-in. (1.91-cm) SOFI (side A). The nominal thickness of SOFI on the ET is 1 in.

The SOFI surface is an aggregate of thermally insulating cells and is not smooth. In applying SOFI on the panel (or ET) deep cavities were formed between cells of the SOFI. Thickness variation was specified to be within ± 1/4 in. (± 6.4 mm), identical to the ET specification. Thin spots on the panel were located, however, with an infrared camera during the first few tests. Measurements of these spots, taken by piercing the SOFI with a hypodermic needle, revealed that many were considerably thinner than the specification. The thinnest spot, located on the uppermost section of side A, was only 7 mm deep.

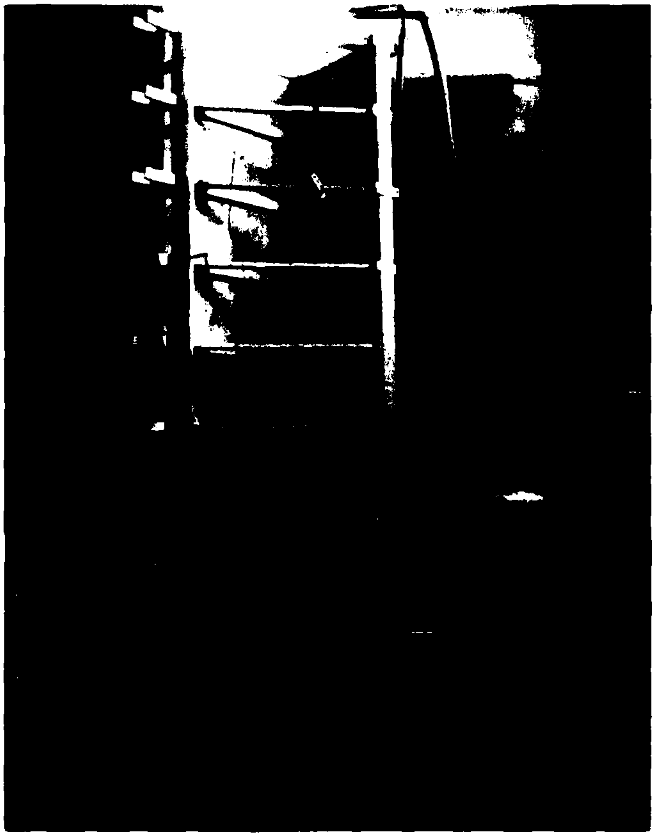


Figure 2. First cryogenic test of completed panel before SOFI spraying. The panel was enclosed in its shipping crate for stability and insulation.

DESCRIPTION OF TEST FACILITY

The test facility was located in an uninsulated building with steel sides and roof, and an asphalt floor (Fig. 3-6). The building has numerous air leaks to the outside. In choosing the location and constructing the facility, several requirements of the testing program were considered:

1. Temperature stratification within the enclosure and rapid variation of temperature during the 5-hr test period were to be avoided.

2. The relative humidity would sometimes have to be increased to match test requirements.

3. The radiative input to the test panel was to be minimized and monitored.

4. Forced air flow in the test chamber was to be controlled.

5. Other ET environmental variables (e.g. solar insolation, vapor condensation, and rundown on all or part of ET) had to be simulated as required by the test plan.

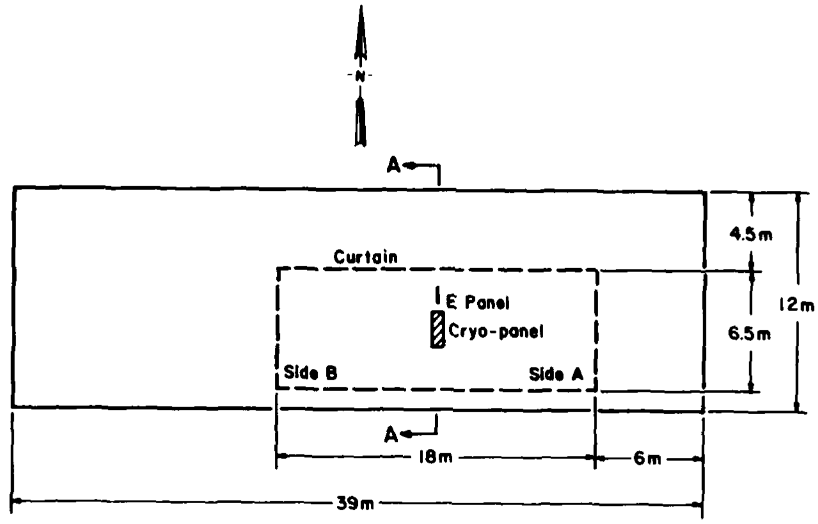


Figure 3. Plan view of test facility giving dimensions and directional orientation.

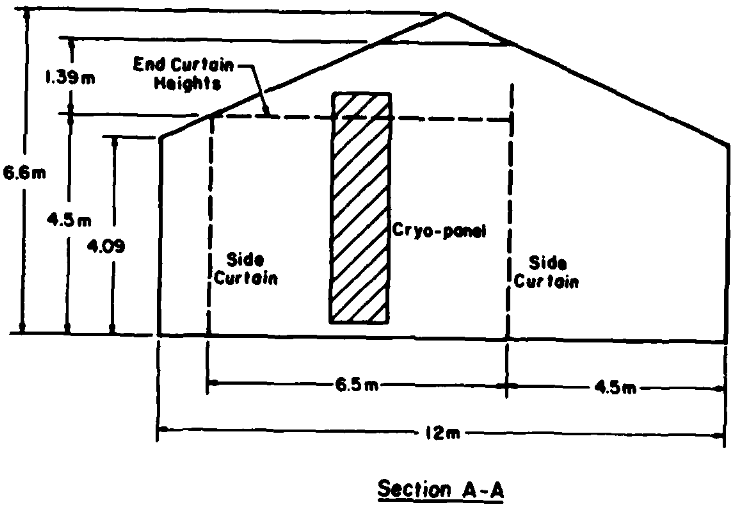


Figure 4. Cross section through test facility giving vertical dimensions.

Because of the influence of outdoor ambient conditions upon the environmental conditions within the test facility, tests were conducted whenever these conditions most closely matched the conditions desired for one of the tests. All of the conditions listed above were monitored, and in some cases manipulated within the test enclosure to achieve the conditions required for the test. The panel orientation was such that east corresponds to side A, the side with nominal 3/4-in. (1.91-cm) SOFI thickness, and west corresponds to side B, the side with nominal 1-in. (2.54-cm) SOFI thickness.

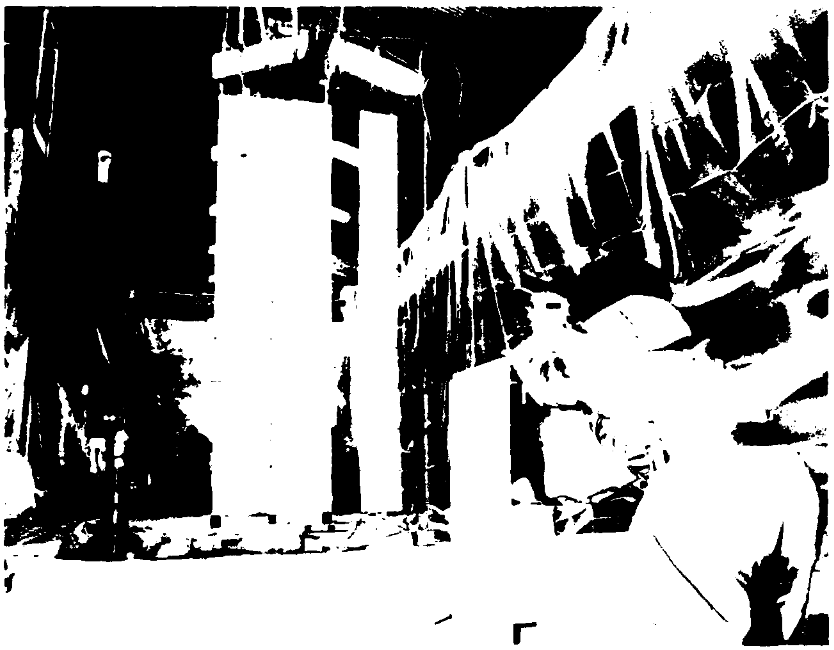


Figure 5. Test enclosure viewed from side A, with IR pyrometer in use. Note psychrometer and dew cell hygrometers at left, cryopanel, net radiometer and emissivity panel at the center.

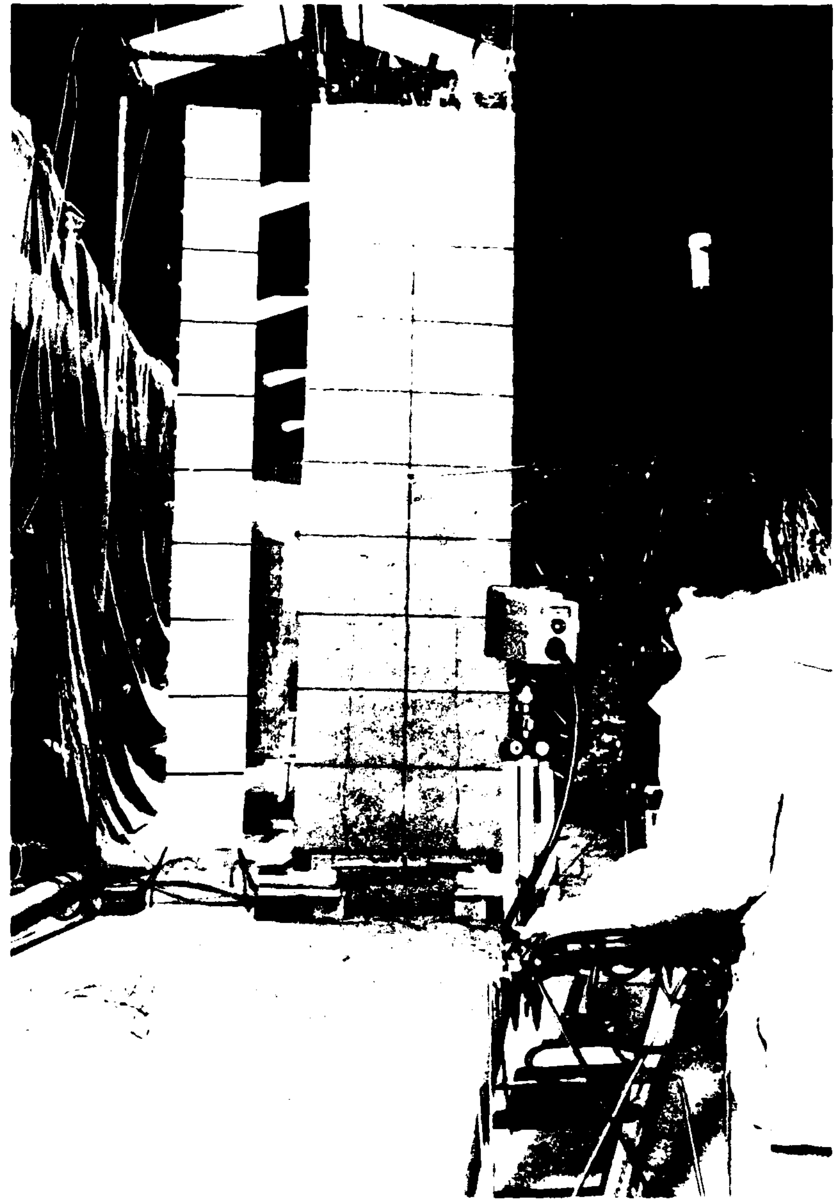


Figure 6. Test enclosure viewed from side B, with IR camera in use. The propeller anemometer can be seen at the top of the hydraulic ladder on the right.

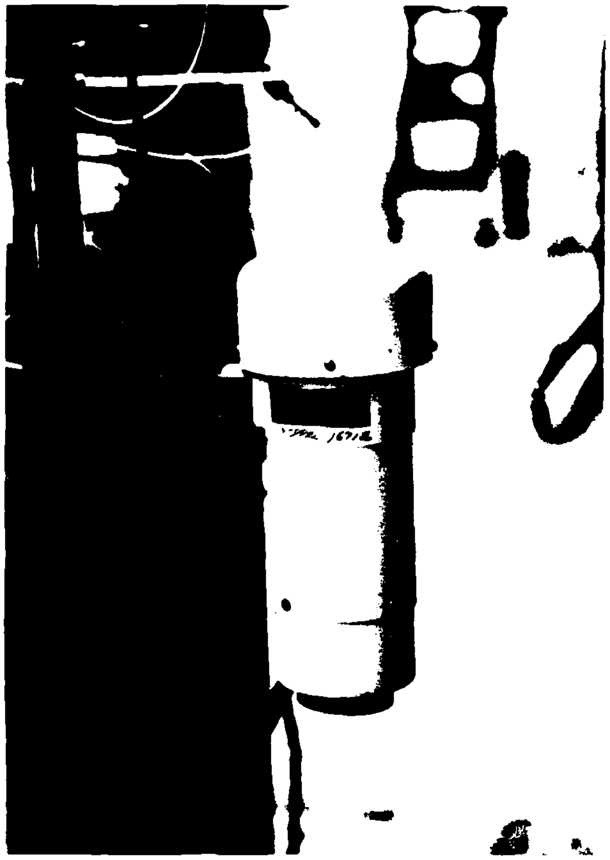


Figure 7. Dew cell hygrometer used for dry bulb and dew point temperature measurement

Figure 8. Assmann psychrometer used for wet bulb and dry bulb temperature measurement.

Temperature

For more than a month before the tests began, the building and outdoor temperatures were monitored hourly. It was found that overcast days and nights offered the longest periods of stable temperature and humidity. With clear conditions, the most stable temperature and humidity occurred between 2300 and 0500 hr. For all conditions, the building housing the test facility offered some damping of outdoor temperature variations. These studies indicated that tests should be conducted during overcast conditions, or at night, to satisfy the test requirements. The actual temperature variations in eight of the tests were within ± 1°C and 12 tests were within ± 2°C.

Two dew cell hygrometers (Fig. 7) were stationed at 1 and 4 m from the floor, near the test panel to monitor temperature and dew point throughout the test at 5-min intervals. In addition, an Assmann psychrometer (Fig. 8) was stationed on the A side of the test enclosure 2 m from the floor and used to measure the wet bulb and dry bulb temperatures every 30 min. A complete description of all instruments used in the test series is given in Appendix A.

Figure 9. Spray nozzle assembly used to increase humidity and for fog production.

Humidity

Again, the natural variations in relative humidity made it possible to complete most of the tests by waiting for the appropriate conditions. Where higher humidity and/or fog was desired, two sets of spray nozzles (Fig. 9), one at either end of the test enclosure, were used. Generally, spraying began at least an hour before test time and continued throughout the test. Areas near the spray rig were checked for air currents that might affect the panel flow field and surface temperatures. Forced air convection was determined to be confined to a small area very close to the spray rig, more than 5 m from the panel. Fog was contained near the panel by the plastic curtain walls of the test enclosure. The plastic walls were hung a distance away from the building walls, with an air space at the ceiling and floor for air exchange.

Radiative environment

To minimize radiative input to the panel, most tests were conducted at night or in generally overcast conditions. The nighttime tests were begun sufficiently late so that the steel structure had an opportunity to cool from heating that may have occurred throughout the day. Spraying the roof with water to enhance cooling was also done before starting some high humidity tests. On overcast days, the roof and walls were within a degree or two of the ambient temperature (e.g. tests 1 and 7). For later tests conducted in early morning, the two windows in the roof closest to the panel were covered with aluminum foil to minimize the effects of solar heating. Two net radiometers (Fig. 10) were placed in the center of each side of the panel to monitor the net radiative input. In addition, the roof, wall and floor temperatures were monitored. Probably the least-regular radiative effect near the panel occurred when two to five persons stood close to the bottom of the panel to examine the frost/ice growth.

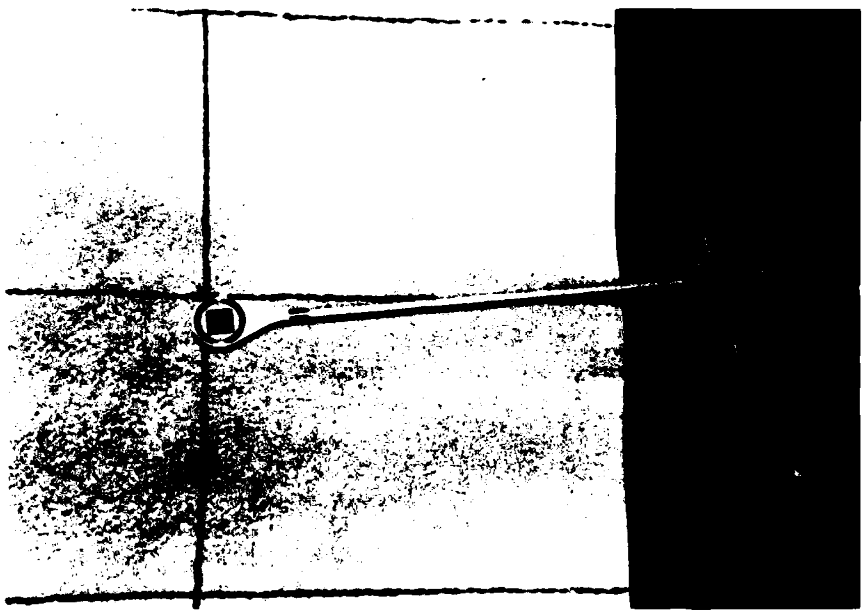


Figure 10. CSIRO net radiometer used to measure the net input of thermal radiation to the surface of the panel.

Wind

The leakiness of the steel structure provided enough ambient turbulence to ensure immediate transition to turbulence in the boundary layer and turbulent flow over the entire length of the test panel. The end doors of the building were opened wide before a test to minimize temperature stratification in the building and then closed to 1-m openings before starting. A propeller anemometer was used during a test to monitor any air currents flowing through the building. Air movement was almost never observed, and the slight winds which occasionally occurred at the top of the room were blocked by the plastic enclosure for most of the length of the panel.

Other environmental factors

Simulations of wind, solar radiation, and condensate rundown that might occur on all or any part of the ET on the launch pad were considered and are discussed in the summaries of the relevant tests.

DESCRIPTION OF TEST PROCEDURE

A checklist (Fig. 11) was drawn up to establish a routine by which to prepare for a test. Several hours before each test, a pre-test data sheet (Fig. 12) was partially completed with information on designated environmental conditions for the test, and actual temperature, dew point, relative humidity, and vapor pressure. The battery charge was checked for the IR pyrometer, LN_2 level indicator (Fig. 13), photoflash, IR camera and hydraulic ladder before tests in which they were used. Two hours before a test, data sheets and sample containers were prepared and dry weights of the drip pans used to collect condensate rundown were recorded. Temperature and dew

PRE-TEST CHECKLIST

T-6 hr

1. Measure items listed on data sheet.

2. Check if all batteries are charged or in good condition, IR camera, pyrometer, cherry picker, LN_2 level indicator, photo flash.

T-120 min

1. Prepare following items: Data sheet, film, frost sample container, PEG sample container, filter paper, DVM. Water for pressure indicator and bubbler.

2. Measure O_2 level (over 48 mV or check for discrepancy).

3. Open end door about 1 m.

4. Temperature and dew point variation less tha 2°C/hr?

5. Weigh drip pan and enter on pre-test data sheet.

6. Data logger calibration.

7. Locate IR camera, pyrometer, to side A. Load film and photo data board.

8. Connect LN_2 level indicator battery. Is lamp flashing?

9. Fill manometer and bubbler with water.

T-30 min

Start N_2 in radiometer. Logger 5-min interval.

T-5 min

Wet Assmann psychrometer wet bulb, wind up, hang at the elevator, mount anemometer.

Figure 11. Checklist used in preparation for a test.

PRE-TEST DATA SHEET

Julian date 2112 Test No. 1 Designated Conditions Cold, Dry.

T-6 hr

DP H -8.5°C VP 2.22 DP L -8.8 VP 2.168 LN_2 level 31.5 LN_2 pressure
RH 36 RH 35%

Temp H 3.8°C VP 6.015 Temp L 4.1 VP 6.15 O_2 52 mV N_2 pressure 800

Frost sample bottle #1 #2 #3 #4 #5 #6 #7

Oven-dried bottle
Difference
Oven-dried paper
Total frost w.
Area of sample
Location

T-120 min

Temp and dew pt. variation T H deg/hr Dp H deg/hr T L deg/hr DP L deg/hr

Drip pan wt dry A left A right B left B right

Figure 12. Data sheet used to monitor conditions prior to a test.

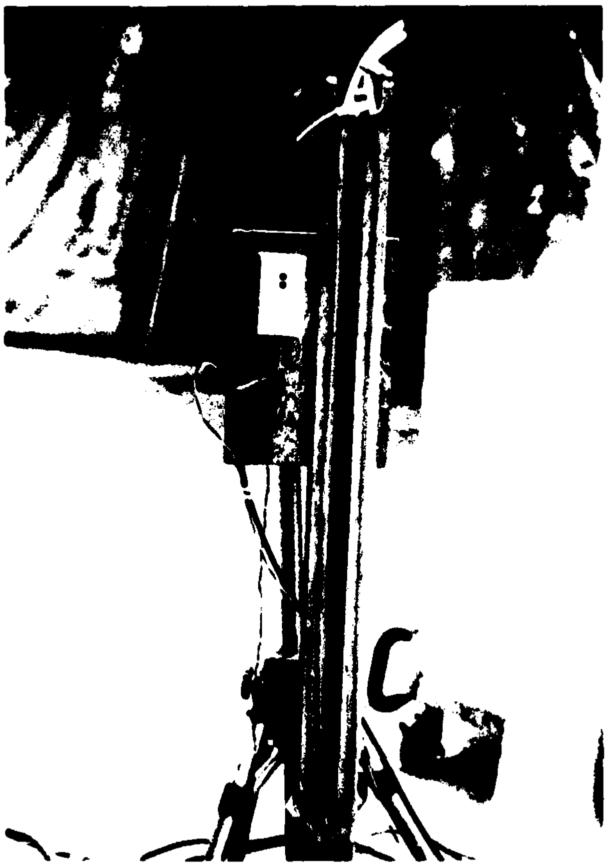


Figure 13. Liquid nitrogen level detector with a probe placed inside the panel near the top, and panel pressure indicator used to monitor overpressure of the panel due to vaporization of the liquid nitrogen.

Figure 14. Omega infrared pyrometer used for panel surface temperature measurement.

point variations were verified to be less than 2°C/hr. The Kaye 8000 data logger was then recalibrated.

Less than 1 hour before the test the water level was adjusted in the panel pressure indicator (Fig. 13) and in the bubbler used to regulate the N_2 supply to the radiometers. The IR pyrometer (Fig. 14) and the IR camera (if used) were moved to side A, where the first set of data would be taken.

At about 30 min before test time the N_2 was turned on to the radiometers. By this time the data logger calibration was complete and the scan interval was set to 5 min where it would remain throughout the test.

The data recorded by the data logger included the output of two platinum resistance thermometers (PRT) located 1 m and 4 m above the floor approximately 1 m from, and coplanar with, the cryopanel. The dew point was measured using dew point hygrometers located in the same aspirators as the PRT's. As a safety precaution, the dissolved oxygen in the test chamber was monitored with a Beckman Model 735 Dissolved Oxygen Analyzer. The radiative heat input to the panel was monitored using two net radiometers, one on each side of the cryopanel located 10 cm out from mid-panel. Forty-three channels on the data logger monitored type T thermocouples at various locations. Twenty-three of them were on the cryopanel and ten on the emissivity panel. Two each were on the floor and ceiling and one was on each of the four plastic curtain walls. One thermocouple was in a zero point reference and one was in a Dewar flask of LN_2 for reference.

Five minutes before the start of the test, the psychrometer's wet bulb was moistened with distilled water and the psychrometer was wound up and mounted on the ladder located on side A, along with an anemometer to monitor air flow in the enclosure.

SOFI PANEL TESTING WORK SHEET

Sheet No. 5 of10

Julian date 2112   Time   Elapsed time T   Dry bulb temp. 41.5

Tester initials   Anemometer reading 0   Wet bulb temp. 35.5

R.H. 53.97%

	Side A (3/4 in.)			Side B (1 in.) T+X		
Level	Emissivity panel	Right (PEG coated)	Left (Uncoated)	Emissivity Panel	Left	Right
1	4.4	-28.8	-31.6	4.7	-12.2	-15.3
2	4.4	-20.2	-22.2	4.7	-12.8	-13.4
3	4.3	-21.8	-21.8	4.4	-13.3	-12.7
4	4.2	-20.5	-20.3	4.5	-13.4	-12.3
5	3.8	-20.5	-20.5	4.4	-12.6	-11.1
6	3.9	-21.1	-19.4	3.8	-13.2	-11.2
7	3.8	-20.1	-18.8	3.8	-12.2	-11.1
8	3.8	-20.0	-20.5	3.6	-13.6	-12.3
9	3.8	-19.5	-18.8	3.7	-14.4	-13.8
10	3.5	-18.3	-18.8	3.8	-13.2	-11.7

Photo film #   IR photo   Drip pans

Frame #	Note	Photo #	Note	Pan #	Dead Weight g	Drip g
#		#		#		
#		#		#		
#		#		#		
#		#		#(PEG)		

Figure 15. Sample data sheet of manually collected test data.

The beginning of test time, T=0, was marked by the beginning of the LN_2 filling of the cryopanel. The LN_2 level on the storage tank was recorded, and the wet bulb and dry bulb readings were taken with the psychrometer and recorded on the first of ten data sheets (Fig. 15). The IR pyrometer temperature measurements of the 10 areas on the aluminum emissivity panel and 20 areas on the cryopanel were taken on side A. The measurements began at the top level of the emissivity panel and were followed by two measurements of temperature at the same level from the cryopanel. The scan continued progressing downward by level toward the bottom. Fifteen minutes later those same pyrometer measurements were repeated for side B. At T=30 min, the psychrometer was wound up again and the entire procedure for taking the above measurements was repeated. This procedure was repeated every 30 min until the test was completed. Meanwhile, for approximately the first 30 min of the test, one experimenter was dedicated to monitoring the filling rate and panel pressure until the LN_2

filled the cryopanel to the top. After the initial filling, the level was checked periodically but not continuously monitored.

Photographs were taken throughout the test of any frost, ice or water rundown occurring on the panel, and comments on any such developments were added to the half-hourly data sheets. If there was rundown, the drip pans below the panel were collected and weighed at half-hour intervals.

This repetitive procedure was followed for the 5-hr test period. Occasionally on specific tests additional measurements were interspersed as required (e.g. boundary layer velocity profiles during tests 11 and 13).

At the end of a test a sample of the frost or ice, and any condensation, was taken from each side of the panel. The LN_2 supply was shut off and the level in the cryopanel gradually decreased by boiling off. This generally took approximately 10 hours. During boil-off, as the top of the panel warmed up the ice melted, and water rundown occurred. As a result, the growth of the thickest slabs of ice observed at any time during the testing program developed at this time.

TEST PROGRAM SUMMARY

A total of 14 tests were performed with the cryopanel. The T_{DP} line in Figure 16 illustrates the conditions for which the dew point temperature is 32°F (0°C). The regions above this line and to the left of the lines labeled 1, 3/4, and 1/2 designate conditions for which ice formation is expected on the panel for SOFI thicknesses of 1 in. (2.54 cm), 3/4 in. (1.91 cm) and 1/2 in. (1.27 cm) respectively. At condition A the dew point falls below freezing and frost is expected. The surface temperature of a panel coated uniformly with a 1-in. (2.54-cm) thickness of SOFI at condition B would be expected to remain above the freezing point and condensation produced.

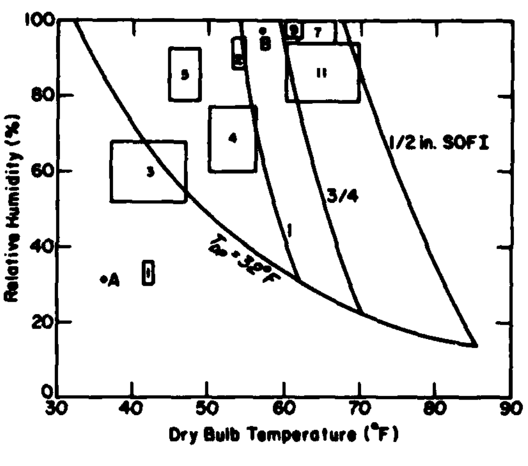


Figure 16. Plot of temperature and humidity ranges of the core test series. The T_{DP} line illustrates the conditions for which the dew point temperature is 32°F (0°C). The regions above this line and to the left of the lines labeled 1, 3/4, and 1/2 designate conditions for which ice formation is expected on the panel for SOFI thicknesses of 1 in. (2.54 cm), 3/4 in. (1.91 cm) and 1/2 in. (1.27 cm), respectively. At condition A, the dew point falls before freezing and frost is expected. The surface temperature of a panel coated uniformly with a 1-in. (2.54-cm) thickness of SOFI at condition B would be expected to remain above the freezing point and condensation produced.

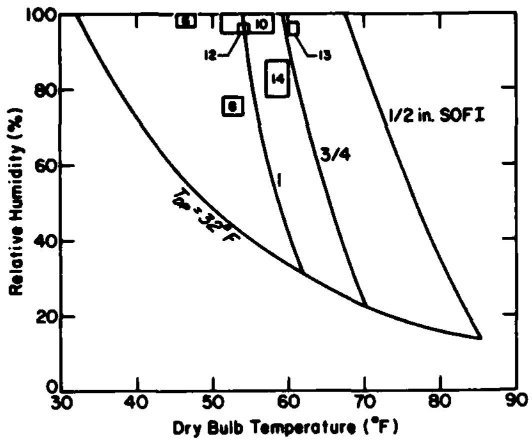


Figure 17. Plot of temperature and humidity ranges of the dual area test series.

The range of temperature and humidity conditions of each "core" test that was performed are identified by test number and shown in Figure 16. The natural convective flow field, panel surface temperatures and moisture delivered to the surface of the panel were undisturbed in the core tests. Additional "dual area" tests were conducted in which conditions on part or all of the panel were modified. These tests were performed to examine the effects on ice formation processes of wind, solar radiation, condensation occurring before cryo-loading, and condensate rundown after cryo-loading from the upper portion of the ET. The ranges of temperature and humidity conditions during each of the dual area tests are illustrated in Figure 17 by test number.

Six dual area tests were performed and are summarized here. A more detailed description of the effects of dual area tests can be found in the data section pertaining to the specific test.

Two tests were performed (tests 6 and 13) in which the surface of the panel was wetted before cryogenic loading. These tests were designed to simulate condensation already present on the ET before fuel loading.

Two tests were performed to determine the effects of water rundown on icing of the panel. Because the test panel is only 1/10th the height of the ET there will be much larger amounts of condensate rundown water available for freezing on the lower parts of the ET than on the lower part of the test panel. Panel tests 8 and 14 were performed with totals of 25 mL/min and 61 mL/min of water, respectively, delivered through a drip hose to the top of the panel. At the top the flow was split equally between the two sides of the panel.

Two tests (10 and 13) were performed with an infrared lamp array calibrated to deliver about 180 W/m^2 to the upper half of side B to simulate the effects of solar radiation on part of the ET.

The last type of dual area test (12) involved forced convection across the top half of side B. A fan setup near the panel delivered wind at about 1 m/s which kept the upper half of side B of the panel free from frost.

A number of the tests were performed when the naturally occurring weather conditions coincided with one of the planned test conditions. For

most tests calling for high humidity, the humidity was increased using two sets of spray nozzles positioned at either end of the test chamber. Artificial fog conditions were created and maintained with the same devices in other tests.

TEST DESCRIPTIONS

The following 14 sections are each a complete description of one of the tests conducted with the cryopanel. Each includes a description of the observed conditions of the panel surface as frost, condensation, or ice developed throughout the test.

All data recorded automatically every 5 min during the test and the temperature data recorded with the pyrometer are supplied in Appendix B. Included in these data are measurements from two dew cell hygrometers (temperature and dew point) and radiometer data from the two net radiometers placed at the center of each side of the panel. Also included are data from thermocouples around the test enclosure. Thermocouples on the ceiling were placed on two different surfaces, the west one directly on the metal roof, and the east thermocouple on one of the translucent windows spaced every 3 m across the length of the building. Relative to the thermocouple on the roof, the thermocouple on the window always read higher under sunny conditions, lower on clear nights and approximately the same in overcast conditions. For the last four tests the windows nearest the panel were

Table 1. *SOFI thickness at thermocouple locations.*

Thermocouple	SOFI Thickness (in)	SOFI Thickness (mm)
1	0.69	17.5
2	0.61	15.5
3	0.64	16.3
4	0.87	22.2
5	1.08	27.4
6	0.72	18.2
7	0.97	24.6
8	0.89	22.6
11	1.09	27.8
12	0.81	20.6
13	0.84	21.4
14	0.91	23.0
15	1.02	25.8
16	0.92	23.4
17	0.95	24.2
18	1.03	26.2
50	0.66	16.7
51	0.55	13.9
52	1.28	32.5

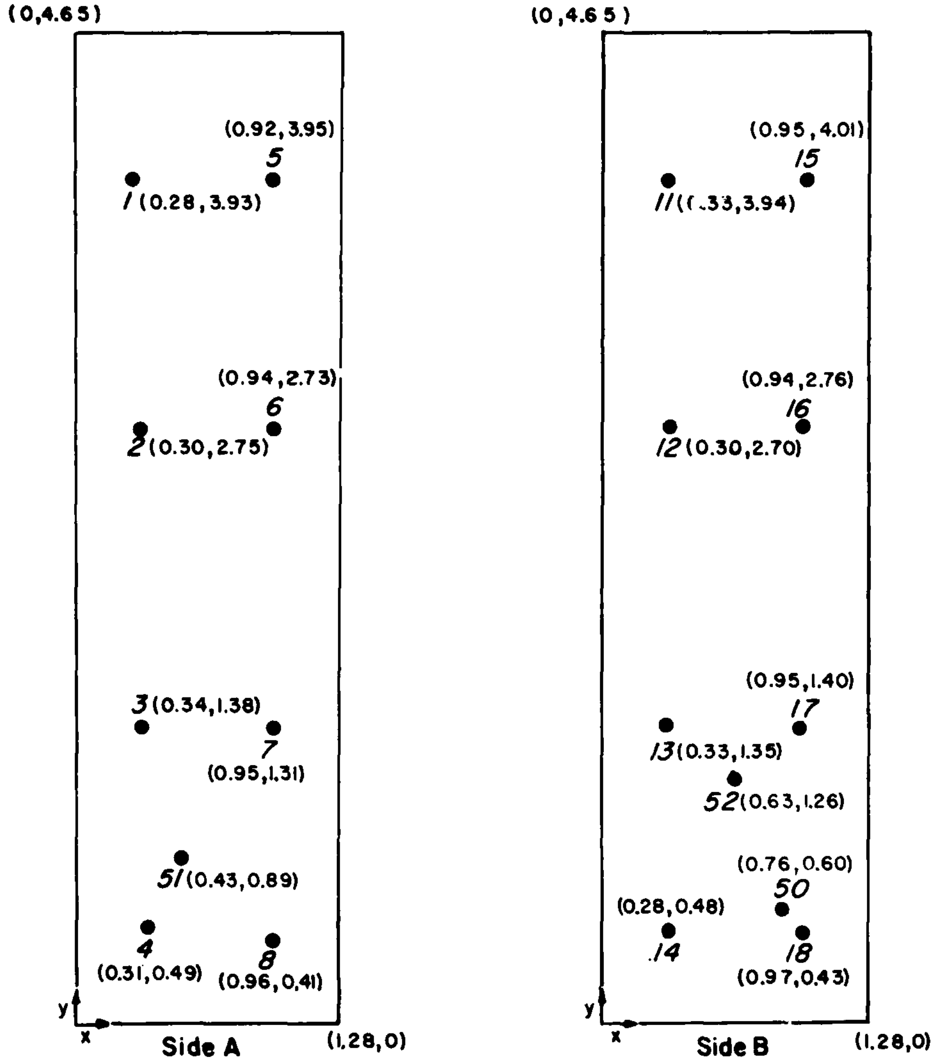


Figure 18. Map of thermocouple positions (m) on the cryopanel; x and y coordinates of each thermocouple are given.

covered with aluminum foil, shielding the panel from direct solar radiation. For all tests, the west thermocouple is more representative of the temperature of the ceiling of the test chamber. The final group of data included in Appendix B are the 5-min readings of all thermocouples on the panel by their position numbers. A map of thermocouple positions on the panel is given in Figure 18. SOFI thickness was determined at each thermocouple location at the conclusion of the test series and these values are given in Table 1 by thermocouple position number.

Four 15-cm-wide drip pans were positioned at the bottom of the panel, two on side A and two on side B, to collect water rundown data. Drip pans were replaced every 30 min during the test and weighed. In the tabulation of rundown data, AR stands for the pan under the right half of the panel as one faces side A. AL is the pan under the left half of side A, and BR and BL are defined similarly. A table of rates of water rundown is supplied with the test summary for tests in which rundown occurred.

Tables 2 and 3 summarize data collected during the core and dual area test series, respectively, and allow a general comparison of the test re-

Table 2. Core Test Summary Data.

		#1	#2	#3	#4	#5	#7	#9	#11
Date		April 22	April 26	April 28	May 6	May 10	May 19	May 29	June 11
Time		1145-1630	2220-0320	2210-0310	2300-0400	2230-0330	1730-2230	1030-1530	1000-1500
Dry Bulb Temperature Range (°F)		41.5-42.5	53.0-54.5	37.0-46.5	50.0-56.0	44.5-48.5	61.5-66.2	59.9-62.0	60.0-69.8
Wet Bulb Temperature Range (°F)		32.5-35.0	52.0-53.0	33.0-41.0	44.5-49.0	42.5-46.5	61.0-66.2	59.6-61.2	58.0-65.2
Relative Humidity Range (%)		30-36	88-96	52-68	60-77	79-93	95-100	96-100	79-95
Outdoor Conditions		overcast	overcast	clear	partly cloudy	clear	partly cloudy	overcast	overcast then clear
Boundary Layer (side A)		0.23	0.33	none	0.43	0.30	none	0.24	0.13
Velocity (m/s) (side B)		-	-	measured	0.13	-	measured	0.17	-
Fill Time (min)		80	37	40	39	32	30	30	29
Pyrometer Emissivity Setting		0.86	0.86	0.86	0.86	0.86	0.92	0.99	0.92
Total PEG (g)		none tested	none tested	none tested	none tested	450 1000:400: H_2O in ratio 8:5:5	none tested	450 4000: H_2O in ratio 9:8	450 6000: H_2O in ratio 9:8
Frost/Ice Sample g/100 cm^2 at Thermocouple #14		not collected	1.50	0.38	0.96	0.60	1.65	0.28	0.16
at Thermocouple #51			1.52	0.79	1.03	0.67	1.46	2.14	0.92
Total Rundown During Test (g)	AL	none	none	none	none	0.	9.55	2.4	49.1
	AR					35.5 (PEG)	8.7	267.7 (PEG)	224.3 (PEG)
	BL					0.	77.0	136.6	113.4
	BR					0.	22.0	158.4	36.6
Total Rundown After Test (g)	AL	not	not	63.6	178.4	not	not	0.8	90.7
	AR	collected	collected	66.0	259.7	collected	collected	126.5 (PEG)	271.3 (PEG)
	BL			32.9	84.2			265.7+	187.9
	BR			10.0	31.5			275.4+	74.3
Approx. LN_2 Usage (gal)		300	395	312	223	not recorded	not recorded	403	223

Table 3. Dual Area Test Summary Data.

		#6	#8	#10	#12	#13	#14
Date		May 13	May 24	June 3	June 15	June 17	June 22
Time		2330-0430	1135-1605	1930-0030	0400-0900	0410-0910	0440-0940
Test Type		prior condensation	rundown added 25 mL/min	radiation on top half of side B	wind on top half of side B	radiation on side B, prior condensation	rundown added 61 mL/min
Dry Bulb Temperature Range (°F)		45.0-47.0	51.5-54.0	51.2-58.0	53.5-54.5	60.0-61.0	57.0-60.0
Wet Bulb Temperature Range (°F)		45.0-47.0	47.5-49.5	51.2-57.2	53.0-54.0	59.0-60.0	54.0-56.0
Relative Humidity Range (%)		98-100	73-78	95-100	96-97	94-98	78-88
Outdoor Conditions		overcast	overcast	overcast	overcast, fog	overcast, fog	fog
Boundary Layer (side A) Velocity (m/s) (side B)		none measured	none measured	none measured	see Table 13	0.33 0.14	0.33 0.21
Fill Time (min)		30	29	29	30	29	27
Pyrometer Emissivity Setting		0.92	0.92	0.92	0.92	0.92	0.92
Total PEG (g)		none tested	none tested	none tested	none tested	none tested	none tested
Frost/Ice Sample g/100 cm^2							
at Thermocouple #14		not	8.75	2.58	6.73	5.14	26.54
at Thermocouple #51		collected	1.92	1.02	0.83	2.17	13.44
Total Rundown During Test (g)	AL	none	100.1	0.	1.2	0.2	593.5
	AR		76.5	0.	1.0	0.3	771.5
	BL		581.8	12.6	42.8	161.1	679.6
	BR		592.4	0.	5.7	22.3	238.1
Total Rundown After Test (g)	AL	not	not	24.9	31.6	15.3	14.9
	AR	collected	collected	96.7	31.6	98.2	270.6+
	BL			439.1+	209.4	282.0+	281.2+
	BR			341.7	78.9	280.2+	284.5+
Approx. LN_2 Usage (gal)		not recorded	26.	393	310	264	335

sults. The wet and dry bulb temperatures reported in these tables were measured with the psychrometer, and relative humidity was calculated using these temperature values. Boundary layer velocity was measured at the center of the panel approximately 1.5 m (5 ft) from the bottom of the panel. The frost samples reported were collected at the conclusion of the 5-hr test. If the value given for the mass of rundown collected after the test is followed by a "+," the collection pan overflowed. The test time during which rundown was collected varied between 240 and 300 min. This should be considered when comparing the "total rundown during test"values.

Test 1

The fill time, the time from the beginning of LN_2 filling until tank "top off," for test 1 was 80 min. The infrared camera made it possible to monitor the LN_2 level in the tank throughout the filling process (Fig. 19), and the level indicator at the top of the tank functioned perfectly. The fill time was reduced significantly in subsequent tests after the filling procedure had been established.

Infrared pyrometer measurements of the panel surface temperatures quickly stabilized at -18° to -21°C on side A and -12° to -15°C on side B. These were lower than recorded thermocouple readings by about 6° to 10°C everywhere, indicating that the thermocouples mounted on the panel were probably overly influenced by the relatively high air temperature. Adjustments to the thermocouple mountings were made prior to test 2. The measurement discrepancy was reduced by remounting the thermocouple with heat-conductive compound. The pyrometer/thermocouple temperature comparison will be discussed below in more detail.

Under the cold, dry conditions of this test, frost formation was first noticed after 45 min on the lower part of side A. The surface of the panel

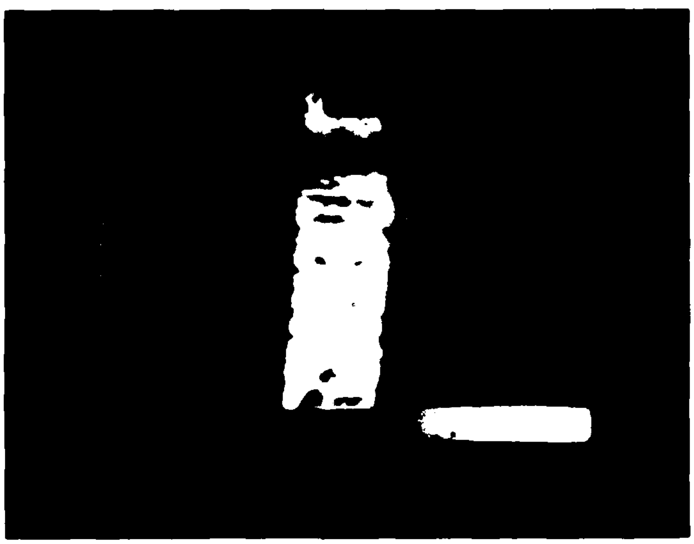
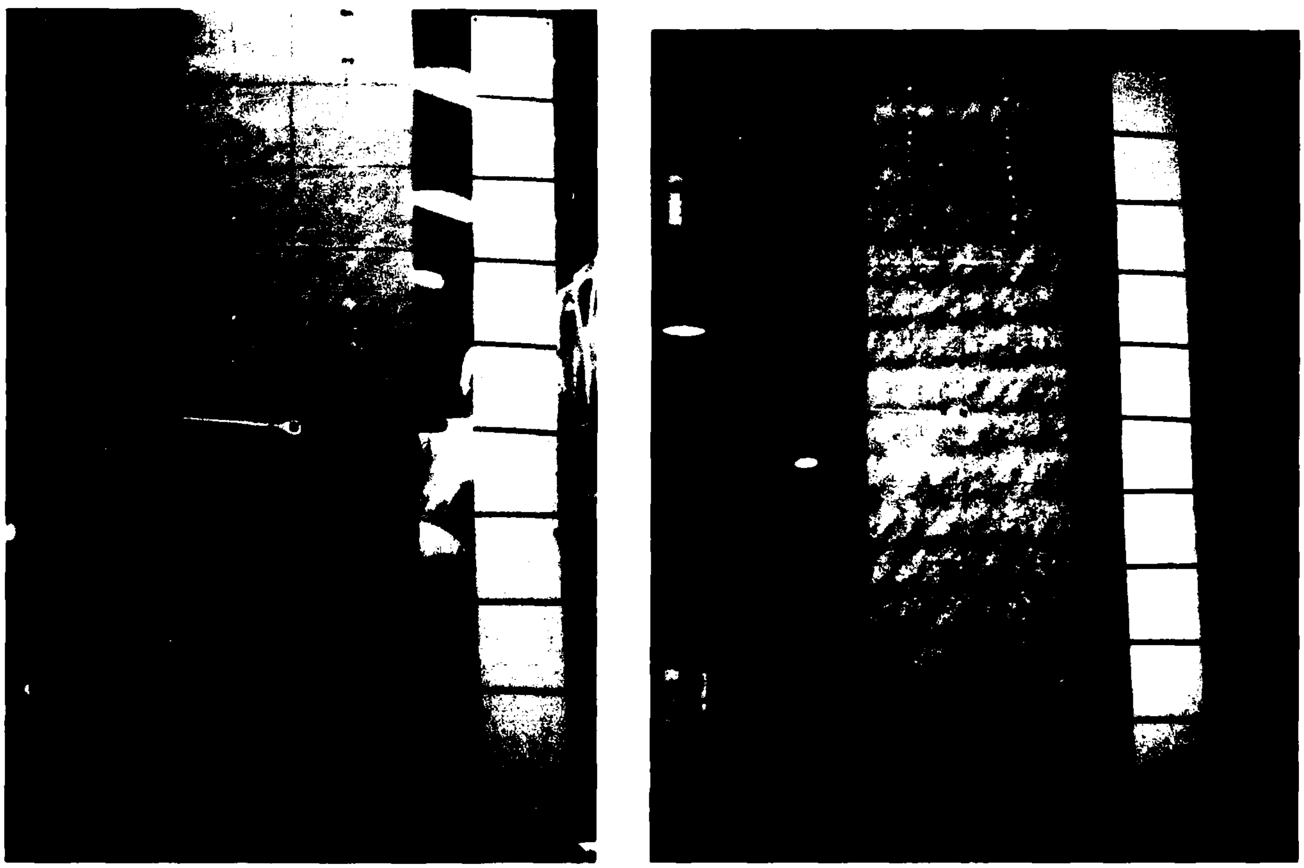


Figure 19. IR photo of panel during filling process, test 1. Surface temperature variations are evident as is the liquid nitrogen level in the panel.

first became frosted in all of the relative low spots on side A. By mid-test there was frost intermittent on side B and covering most of side A. It was a light, feathery type of frost. No condensation or ice formation was noticed at any point during the test. The first observations of ice were made several hours after the test, when the liquid nitrogen had boiled off from the top of the tank and frost melting had begun. Water from the melting frost near the top ran down the panel and refroze in the frost layers below to create patches of hard ice.

Test 2

Although this test was conducted in a very different temperature and humidity range, frost formation on the panel surface initially proceeded exactly as in test 1. Frost first appeared in areas with the thinnest insulation, especially in the cavities between cells of SOFI. The first crystals were noticed at t = 16 min on side A and t = 23 min on side B. The frost cover accumulated more rapidly than in test 1 (Fig. 20) with no evidence of condensation or ice until 3 hr into the test. At 3 hr, small droplets of water were seen at thick SOFI areas on side B (Fig. 21). The condensation process was observed throughout the remainder of the test, but droplets stayed small enough that rundown did not occur. Figure 22 shows the frost accumulation on both sides of the panel at the end of the test.



a. Frost accumulation on side A during test 1 at t = 300 min.

b. Heavier frost accumulation on side A during test 2 at t = 180 min.

Figure 20. Frost accumulations on side A.

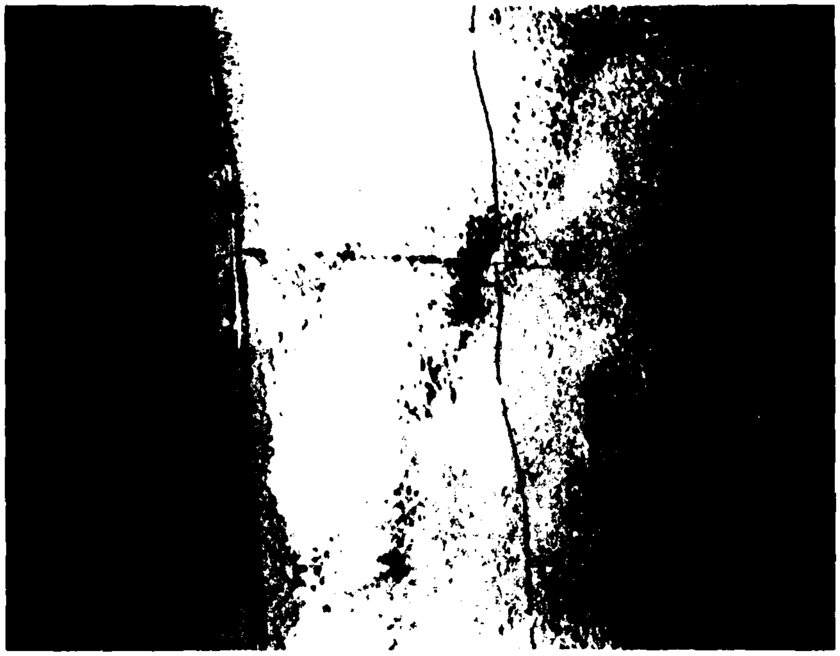
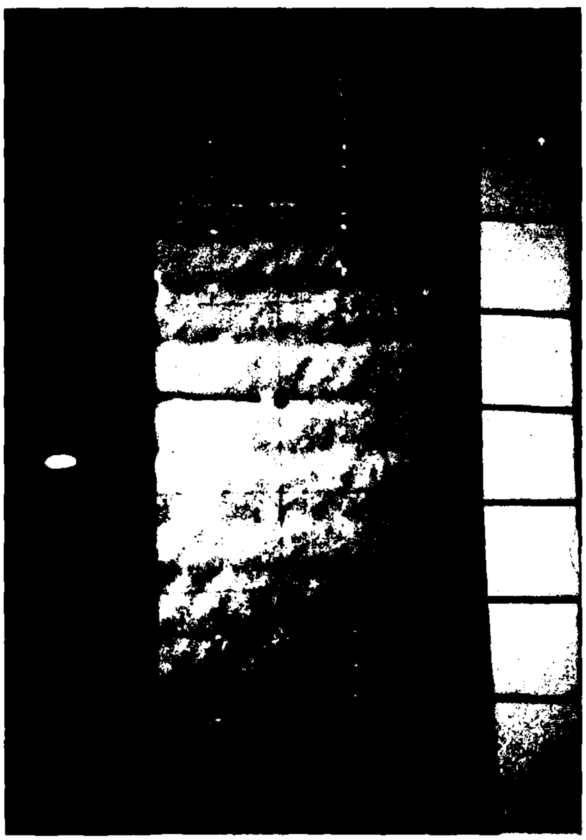
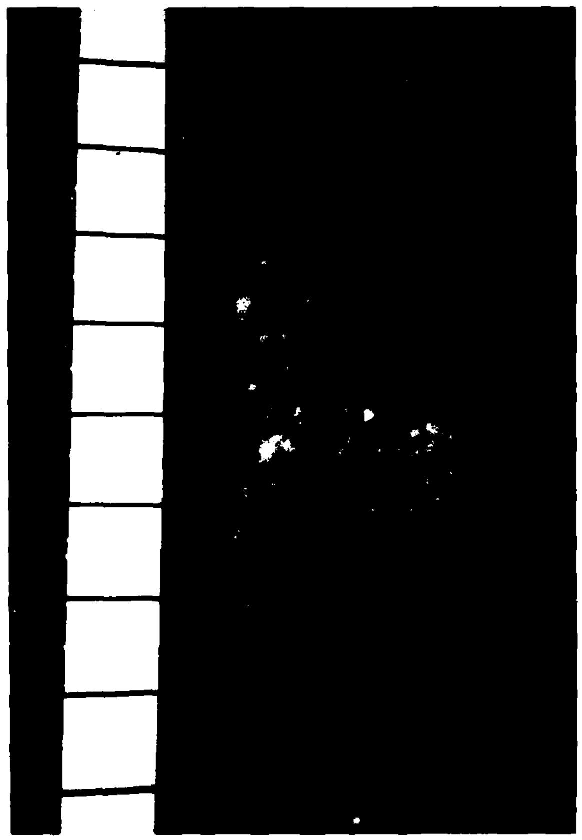


Figure 21. Frost and condensation on side B during test 2 at t = 180 min.



a. Side A.



b. Side B.

Figure 22. Views of panel showing frost accumulation during test 2 at t = 180 min.

After reaching a steady state, the surface temperatures taken with the IR pyrometer were between -9° and -14°C on side A and -2° and -6°C on side B. Recorded thermocouple temperatures were again somewhat higher than those taken with the IR pyrometer. Again, on the day after the test, run-down from melting frost was seen to have refrozen on the lower half of the panel, causing thick (> 4-mm) ice slabs 100 to 400 cm^2 in area to form where there had only been frost during the test.

Test 3

Test 3 was conducted in temperatures that ranged about 5°F above and below test 1 conditions, and in a relative humidity range of between 50 and 60%. The panel surface conditions appeared very similar to those of test 1 throughout the test. The same type of light feathery frost occurred (Fig. 23). No condensation or ice formation was observed. The first frost crystals were noted on the lower part of side A at 25 min. The frost layer started intermittently at the thinner SOFI areas and gradually covered side A completely as well as most of side B.

Once the liquid nitrogen fill was complete, IR pyrometer temperatures ranged from about -18° to -23°C on side A and about -12° to -17°C on side B. The next morning an ice buildup due to frost melt and refreezing was observed as before.

Test 4

The designated conditions for this test were approximately 50°F and 50% relative humidity. The actual temperature at the start of the test was 56°F. The temperature decreased by 6°F during the 5-hr test period. The surface conditions of the panel were very similar to those discussed in the first three test descriptions.

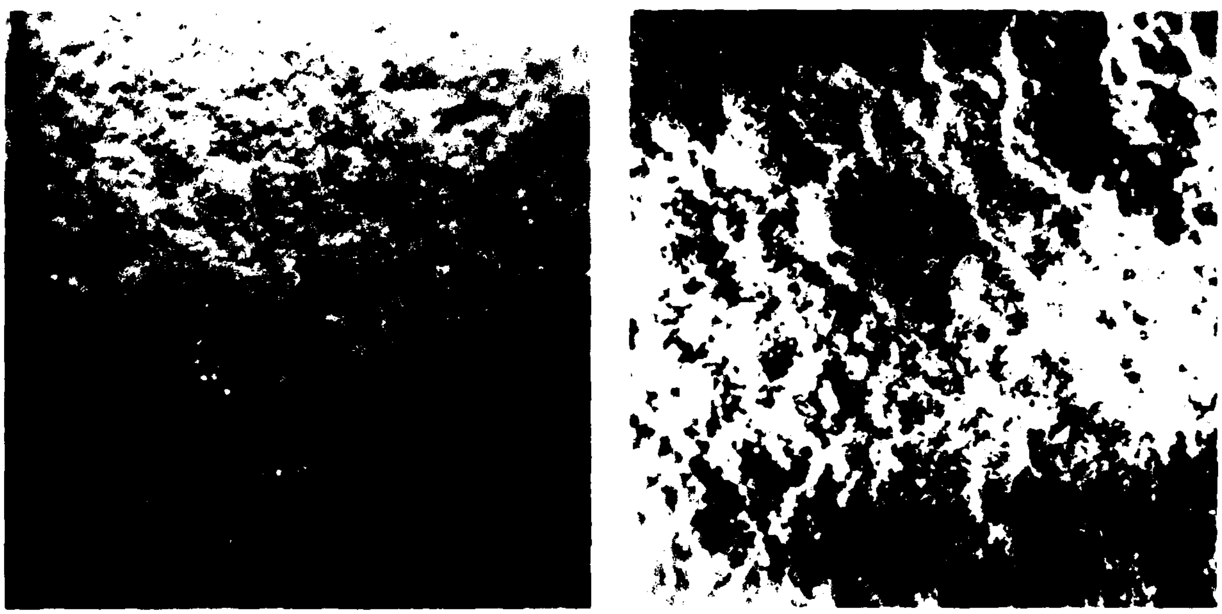
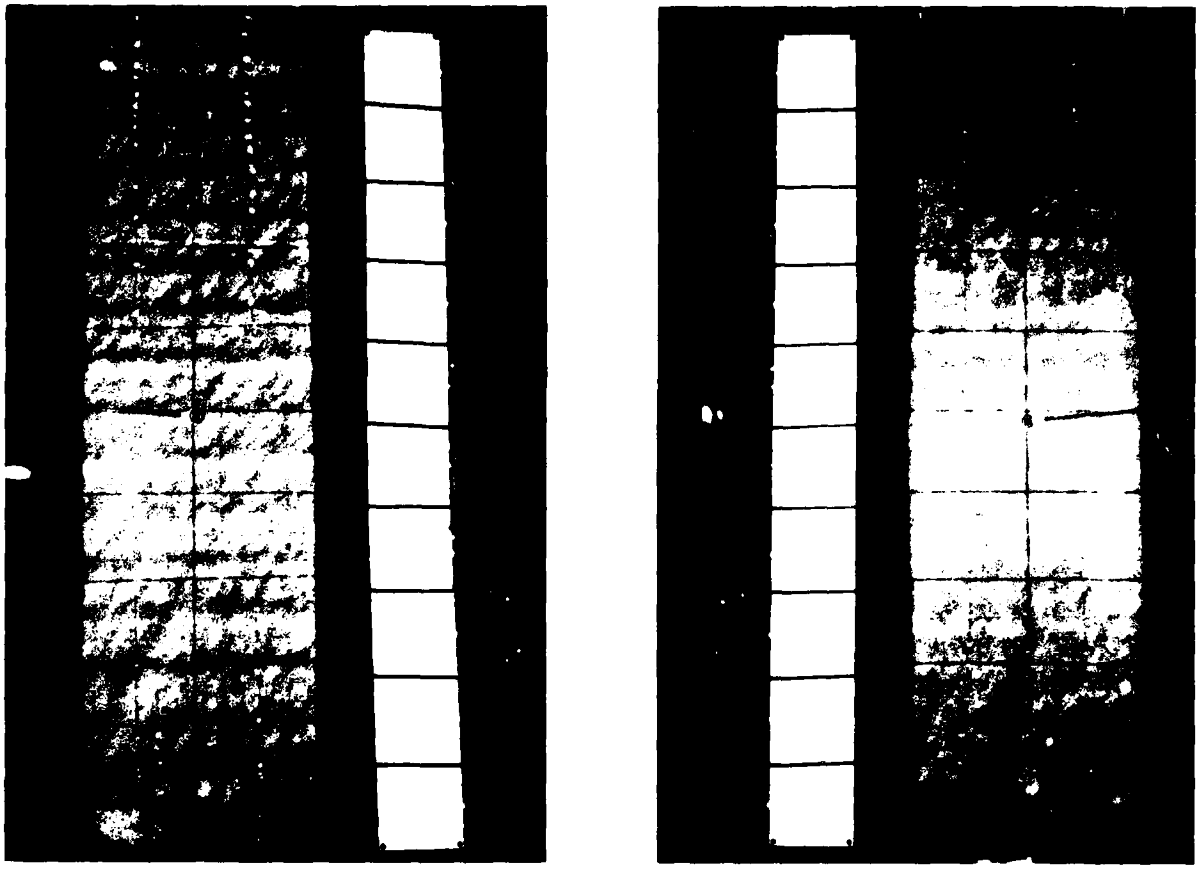


Figure 23. Closeups of feathery frost on panel surface during test 3.



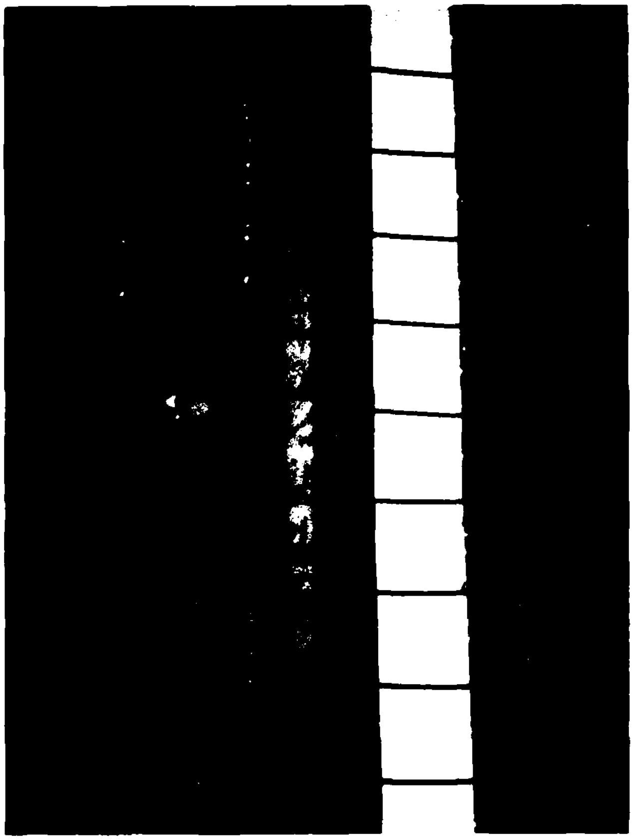
a. *Side A, totally covered with frost.* b. Side B, frost-covered on patches.

Figure 24. Views of panel during test 4 at t = 150 min.

Within 25 minutes of the start of this test, small ice crystals were growing in the thinner SOFI areas, mostly in the small cavities in the SOFI surface on both sides of the panel. After 1 hr, side A was frosted intermittently over most of the surface and side B was about 50% covered with discontinuous patchy frost. By t=90 min, side B was frosted over more than 90% of the surface (Fig. 24). IR pyrometer temperatures on side A ranged from about -11° to -16°C and on side B from about -5° to -8°C. No condensation or ice formation was noted during the test, but again, the following morning frost melt water had refrozen on the bottom half of the panel, forming large patches of dense, thick ice.

Test 5

Conditions in the test chamber and on the panel surface were similar to those during test 4; spray nozzles at either end of the test chamber were used to raise the relative humidity to about 90%. A total of 450 g of a mixture of PEG 1000, PEG 400 and water having an 8:5:5 ratio by weight was applied on a 35.6-cm x 457.2-cm strip to side A of the panel. Feathery frost grew first in thinner SOFI areas and spread on both sides of the panel. No condensation or ice formation was apparent during this test anywhere except on the part of side A coated with PEG (Fig. 25-27). The PEG half of the panel resisted frost formation, which occurred everywhere else



a. PEG strip on side A of the panel, test 5. Frost is suppressed, strip is covered with condensation.

b. Drip pan collecting rundown at base of panel under PEG strip.

Figure 25. PEG strip.

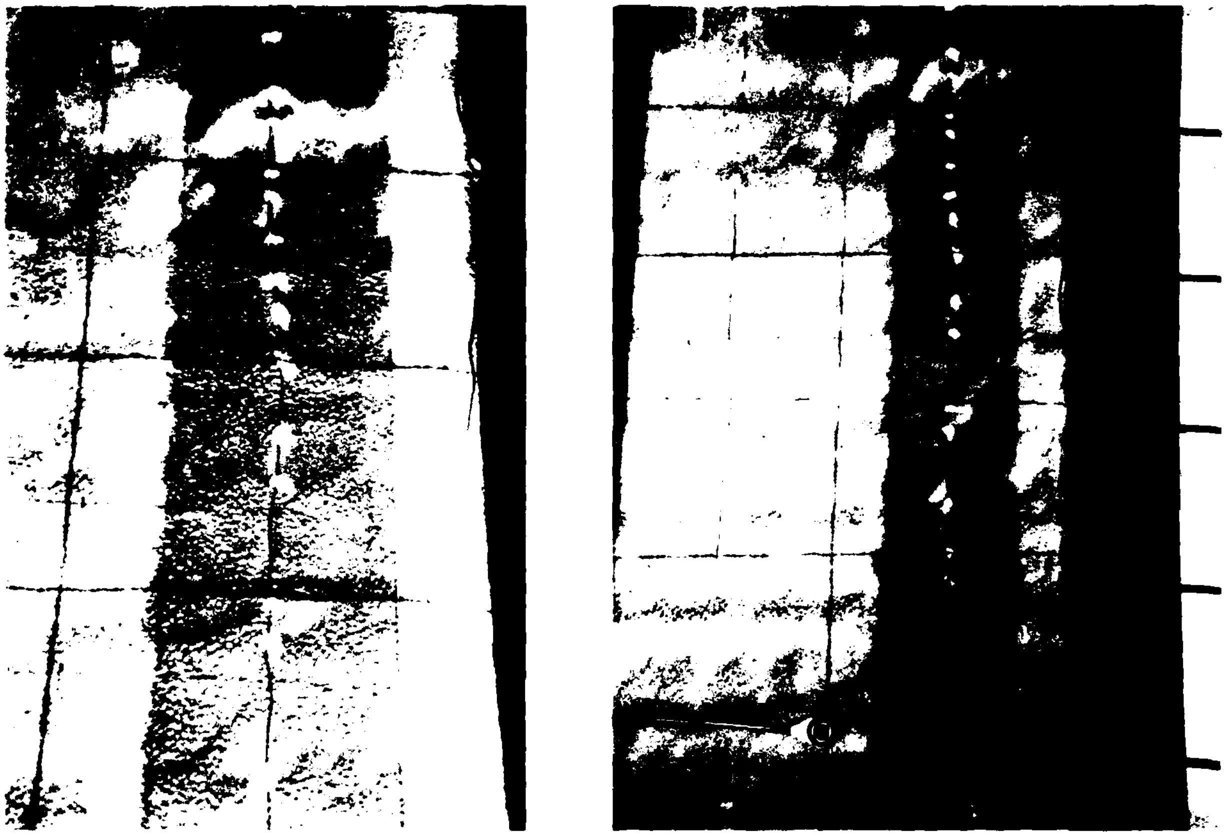
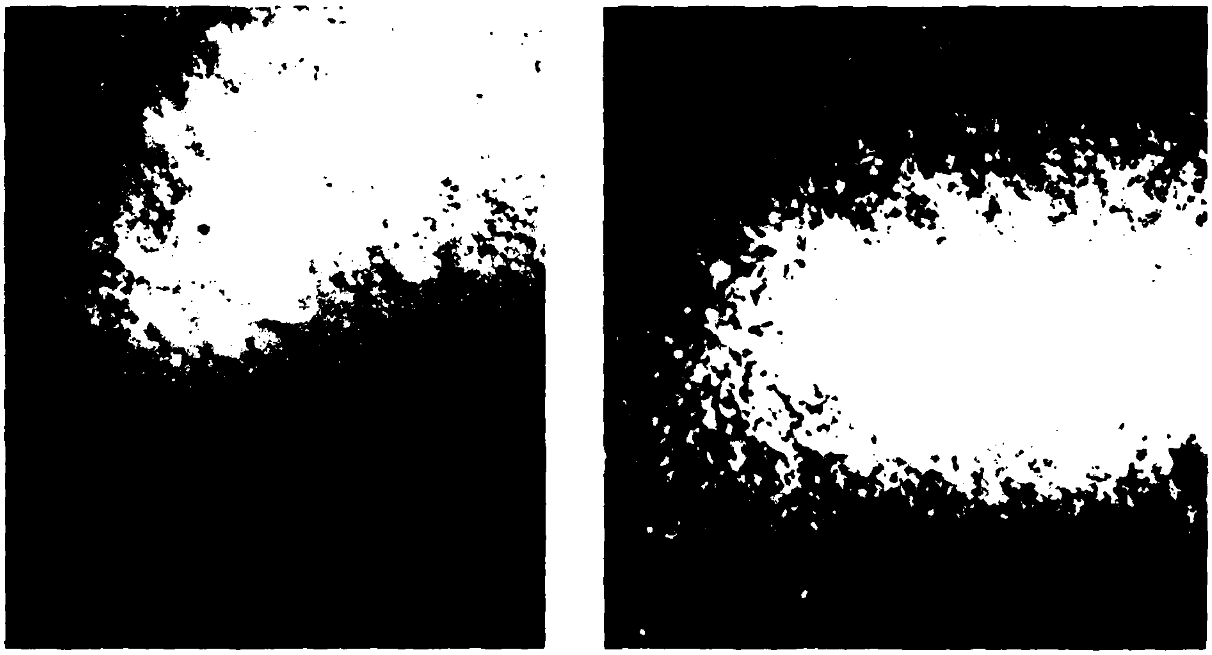


Figure 26. PEG strip during test 5 at t = 150 min. The strip is mostly wet with condensation, but frost is forming at the thinner SOFI spots.



a. Wet frost which formed on PEG strip.

b. Feathery frost which formed on the uncoated SOFI.

Figure 27. Closeups of frost at conclusion of test 5.

Table 4. Water rundown data, test 5.

Test time (min)	Drip pan	Total mass (g)	Drip pan mass (g)	Rundown (g/15 cm)
60	AR	46.7	45.5	1.2 (PEG)
90	AR	49.7	45.2	4.5 (PEG)
120	AR	55.1	45.5	9.6 (PEG)
150	AR	57.1	45.2	11.9 (PEG)
180	AR	52.0	45.5	6.5 (PEG)
210	AR	46.4	45.2	1.2 (PEG)
270	AR	45.8	45.5	0.3 (PEG)

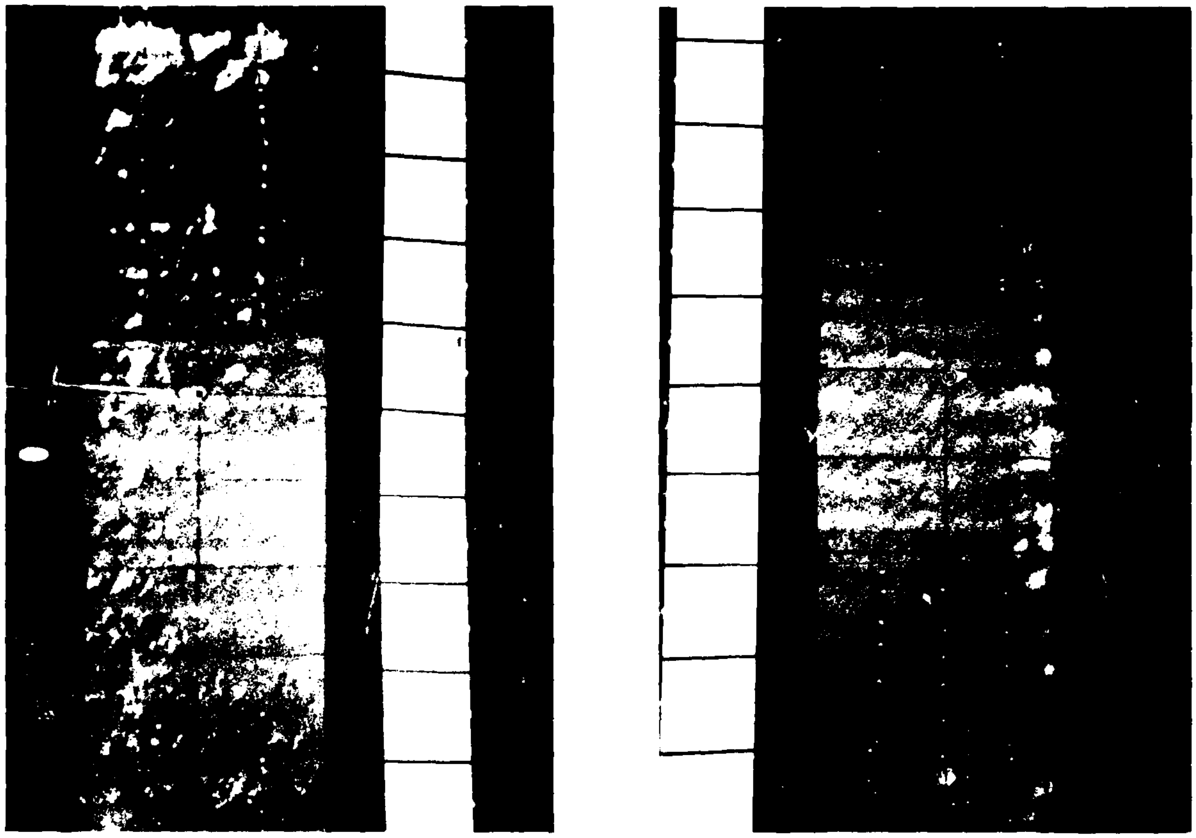
except at spots where the SOFI was the thinnest (Fig. 26). Rundown of PEG solution occurred on the PEG-coated section of the panel and these data are presented in Table 4. Eventually, a wet, slushy material formed on the coated area (Fig. 27). As the test progressed, the slushy material gradually froze into layers of ice, with a density much greater than that of the frost which occurred on the uncoated side of the panel.

Test 6

Conditions for test 6 were similar to those of test 5, except that the humidity was increased and the panel conditions at the start of the test were changed. A visible artificial fog was induced in the test chamber using the two spray nozzles. Distilled water was used to saturate the surface of the panel to simulate condensation on the ET before loading of the cryogenic fuels. Within 90 minutes after the start of the test, water droplets had frozen into ice hemispheres on thinner SOFI areas on both sides of the panel, and frost began to grow on top of the ice. There was no evidence of rundown and no large ice patches were formed, but the overall appearance of the frost at the end of the test seemed to be denser and less feathery than the frost that had grown directly from the SOFI surface in earlier tests.

Test 7

This test was conducted in the late afternoon at relatively high temperatures in an artificial fog environment. Early in the test ($t=30$ min) some of the cavities between SOFI bubbles on the lower half of side A became frosted, or filled with water, and similar conditions existed on side B in less than an hour. Although both condensation and frost were apparent early, there was no droplet migration on either side of the panel for some time. At about 105 and 135 min, water rundown was first noticed on sides A and B, respectively. This was the first test with temperatures high enough for natural rundown to occur (Table 5). Within another hour, the water that had initially filled cavities on side A had frozen and the ice thickness began to increase as rundown water passed over the ice. This process



a. Side A. b. Side B.

Figure 28. Panel at the conclusion of test 7.

continued to the end of the test, resulting in considerable ice buildup on the lower half of both sides of the test panel. The pieces of ice that had formed in the cavities on both sides of the panel were roughly hemispherical, with diameters of 3 to 5 mm, and often patches of ice spread over the surface connecting several of these pieces. Photographs of the panel at the end of the test (Fig. 28-30) reveal the extent of the icing.

Test 8

For test 8 the spray nozzles were used to increase the relative humidity in the test facility to 80% and room temperature water rundown was added at the top of the panel at a rate of 25 mL/min. This total flow rate was split equally between the two sides of the panel. The induced rundown was started 30 min into the test. At that point some frost had accumulated on both sides of the panel. Several minutes after rundown began, distinct rivulets of water were visible flowing down from the top of the panel (Fig. 31). At 60 min, side A was completely wet, and mostly covered by a thin layer of ice, with occasional patches of frost. Side B looked similar and freezing of water rivulets had occurred over some parts of both sides of the panel (Fig. 32). Table 6 presents water rundown data for both sides of the panel and Table 7 gives ice thicknesses and areas of the ice patches on side B for several time intervals during the test.

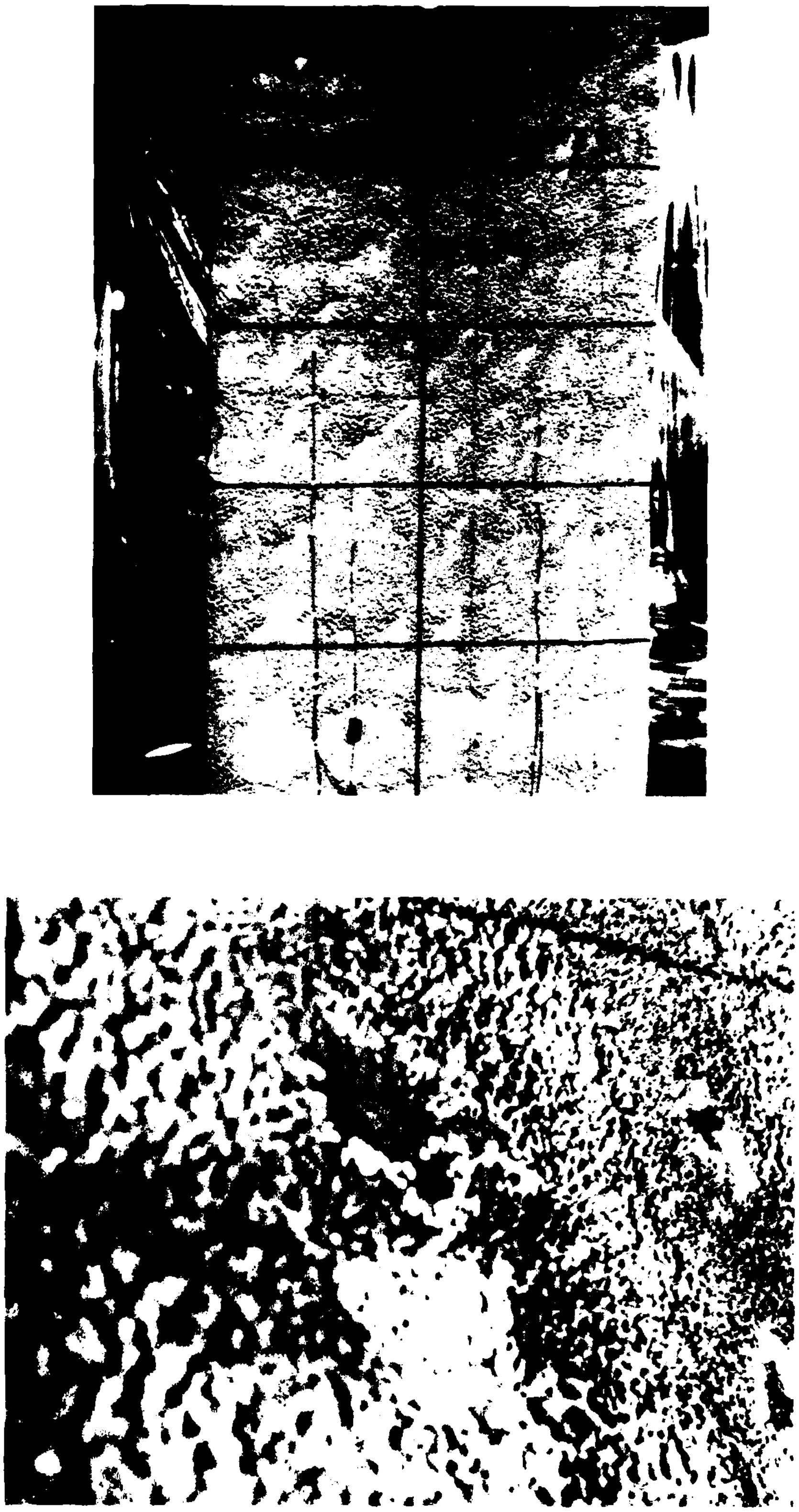


Figure 29. Ice patches that formed on side A during test 7.

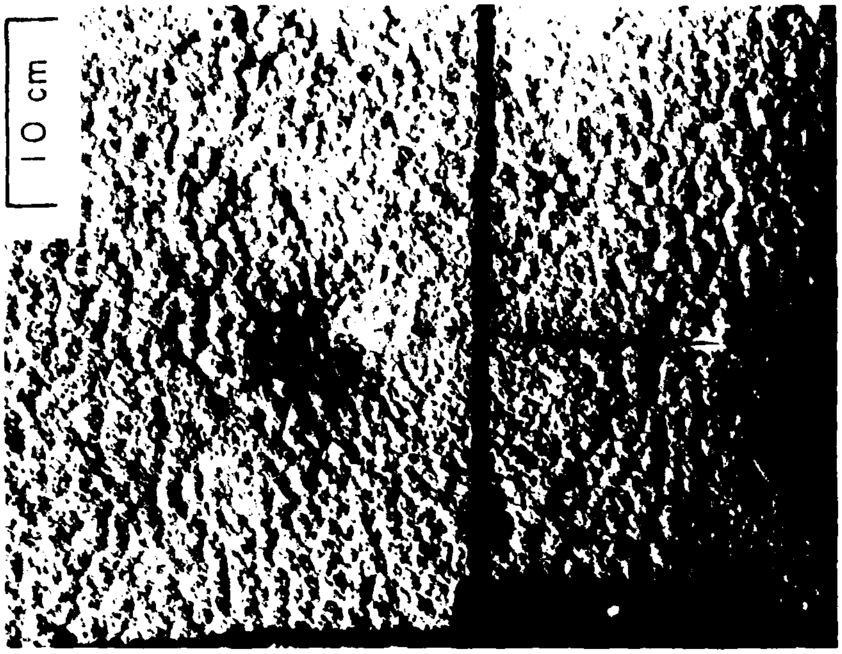
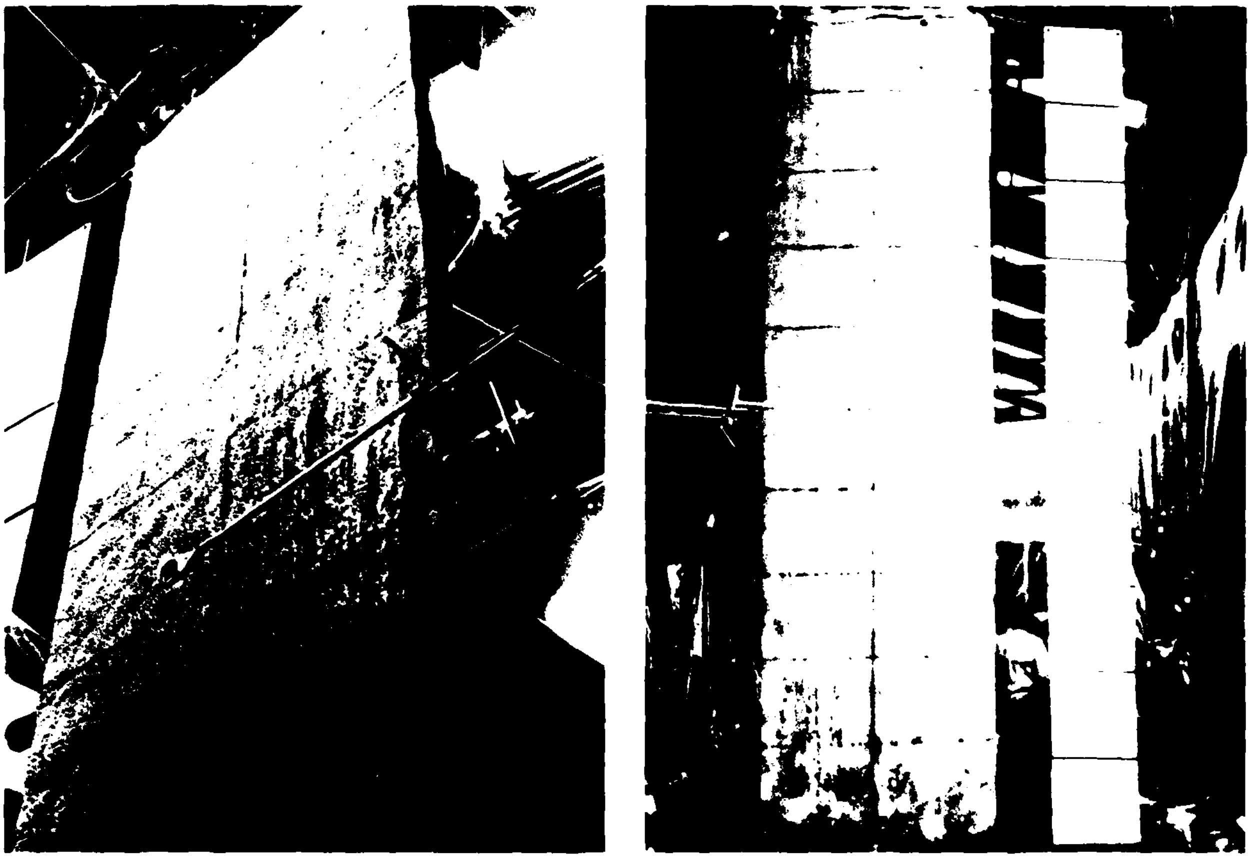
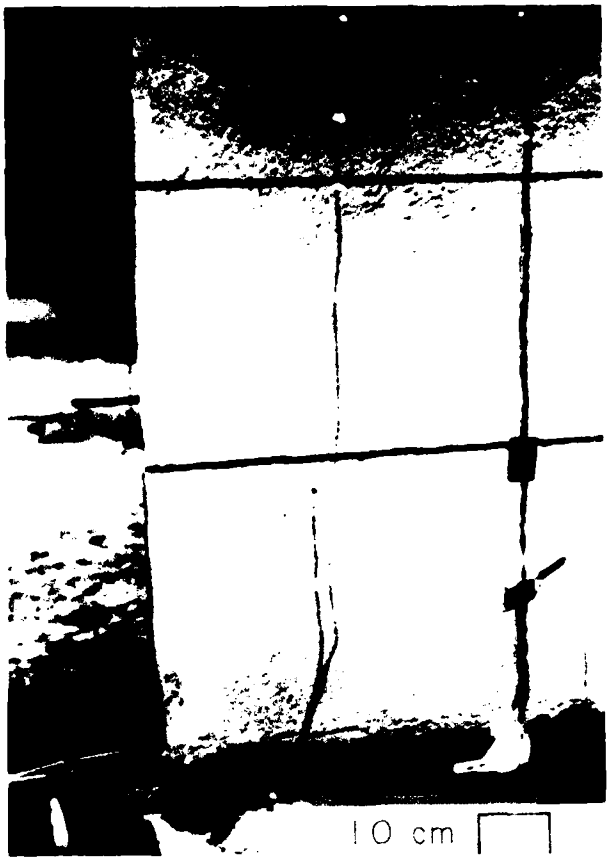


Figure 30. Large ice patch that formed on side B during test 7.



a. Side B at t = 60 min.   b. Frozen rivulet on side A at t = 270 min.

Figure 31. Water rivulets on panel during test 8.



a. Ice patches on lower portion of side B.

b. Close-up of the surface of side B.

Figure 32. Side B, test 8.

Table 5. Water rundown data, test 7.

Test time (min)	Drip pan	Total mass (g)	Drip pan mass (g)	Rundown (g/15 cm)
150	AL	45.8	42.1	3.75
	AR	47.7	45.0	2.7
	BL	45.8	45.4	0.4
	BR	44.9	44.4	0.5
180	AL	44.2	42.1	2.15
	AR	47.8	45.0	2.8
	BL	70.3	45.4	24.9
	BR	49.8	44.4	5.4
240	AL	46.0	42.1	3.95
	AR	48.2	45.0	3.2
	BL	97.1	45.4	51.7
	BR	60.5	44.4	16.1

Table 6. Water rundown data, test 8.

Test time (min)	Drip pan	Total mass (g)	Drip pan mass (g)	Rundown (g/15 cm)
60	AL	61.1	42.4	18.7
	AR	52.3	45.4	6.9
	BL	85.4	45.6	39.8
	BR	143.9	44.7	99.2
90	AL	52.7	45.0	7.7
	AR	87.7	45.7	42.0
	BL	112.3	45.4	66.9
	BR	124.2	45.5	78.7
120	AL	43.5	42.4	1.1
	AR	61.8	45.4	16.4
	BL	148.1	45.6	102.5
	BR	116.9	44.6	72.3
150	AL	47.1	45.0	2.1
	AR	52.0	45.7	6.3
	BL	139.1	45.4	93.7
	BR	140.1	45.5	94.9
180	AL	43.8	42.4	1.4
	AR	46.1	45.4	0.7
	BL	91.2	45.6	35.6
	BR	90.4	44.7	45.7
210	AL	55.3	45.7	9.6
	AR	47.1	45.0	2.1
	BL	96.5	45.4	51.1
	BR	20.3	45.5	157.6
240	AL	75.3	42.4	32.9
	AR	45.8	45.4	0.4
	BL	134.5	45.6	88.9
	BR	74.0	44.7	29.3
270	AL	71.6	45.0	26.6
	AR	47.4	45.7	1.7
	BL	148.7	45.4	103.3
	BR	60.2	45.5	14.7

There seemed to be no significant erosion of the ice layer due to the water rundown at any time. Ice areas and thicknesses increased gradually as the test progressed, though rundown data suggest that there were periods when less of the added water froze, and times when some of it actually melted. The radiative effects of three to five people standing next to the panel examining ice thicknesses were at least partly responsible for this phenomenon.

Table 7. Side B ice accretion rates, test 8.

Test time (min)	Sampled ice thickness (mm)	Description
30	2.4	125 mm^2
	2.0	30 mm^2
	1.6	640 mm^2
90	2.0 (several)	600 - 3150 mm^2 spreading from previous patches
	2.0 - 2.4	7740 mm^2 rectangular patches
180	2.4 - 3.2	Interconnecting of patches measured at 90 min at centers of ice patches
	0.5 - 1.5	In between SOFI cavities
270	1.6	Continuous ice cover with variable thickness
	4.7	Thicker ice at thinner SOFI
	2.0 - 2.4	All of these measurements were taken near the center of a thick piece of ice

Test 9

Test 9 was conducted on an overcast day in artificial fog conditions at a nearly constant dry bulb temperature of 60°F. PEG was tested on one half of side A of the panel. A mixture of 450 g of molecular weight 4000 PEG and 400 g of H_2O was sprayed over the 1.76-m^2 test strip on side A of the panel. After 30 min, or just as the panel filling was complete, the panel surface with the PEG coating looked wet. Some frost was visible on the uncoated lower part of side A in the small SOFI cavities. There were also some ice crystals forming in the deeper SOFI cavities on side B.

After 1 hour, the uncoated half of side A was 50% covered by frost and rundown had started on the PEG-coated section. Side B showed condensation in some places with frost at the thinner points. There was no visible droplet migration for the first 90 min of the test. At that point water droplets about 0.8 to 1.2 mm in diameter, which covered most of the panel, began to coagulate and formed droplets about 3 to 4 mm in diameter. These larger drops began moving down the panel.

For the second hour of the test, the side A frost layer continued to grow thicker and wetter. On the PEG section the top 40% was wet and partially frosted in the thinner SOFI areas (Fig. 33). Thinner spots on the lower half also had some frost.

Water rundown began to reach the bottom of the panel on side B and was collected in drip pans after 2 hr (Table 8). Next, small ice patches (about 35 mm in diameter) began forming in the thin SOFI spots that had previously been frosted as rundown seeped into the frost. The PEG was

Table 8. Water rundown data, test 9.

Test time (min)	Drip pan	Total mass (g)	Drip pan mass (g)	Rundown (g/15 cm)
60	AR	45.3	44.9	0.4 PEG
90	AR	51.2	45.4	5.8 PEG
120	AR	55.9	44.9	11.0 PEG
	BL	48.5	45.3	3.2
150	AR	77.9	45.4	32.5 PEG
	BL	55.5	44.8	10.5
180	AL	43.0	42.1	0.9
	AR	100.1	44.9	55.2 PEG
	BL	71.5	45.3	26.2
	BR	49.5	44.4	5.1
210	AL	45.1	44.7	0.4
	AR	105.0	45.4	59.6 PEG
	BL	68.9	44.8	24.1
	BR	50.7	44.8	5.9
240	AL	42.8	42.1	0.7
	AR	98.5	44.9	53.6 PEG
	BL	70.9	45.3	25.6
	BR	56.6	44.4	12.2
270	AL	44.9	44.7	0.2
	AR	86.7	45.4	41.3 PEG
	BL	72.7	44.9	27.8
	BR	53.6	44.9	8.7
300	AL	42.3	42.1	0.2
	AR	85.7	44.9	40.8 PEG
	BL	74.8	45.3	29.5
	BR	171.9	45.4	126.5

effective except at the very thin SOFI area at the top of the panel. After 3-1/2 hr some ice patches had formed on the uncoated half of side A and rundown was occurring on all sections of the panel. Conditions remained the same for the final 1-1/2 hr of the test with gradual growth of the patches of clear ice.

The rundown on the left half of side A was much smaller than anywhere else both throughout and after the test. It is likely that less rundown occurred during the test because the surface was cold and without a PEG coating, so that more freezing occurred. After the test, melting water may have been diverted from the drip pan under that section by the topography of the SOFI surface and the established rivulet pattern.

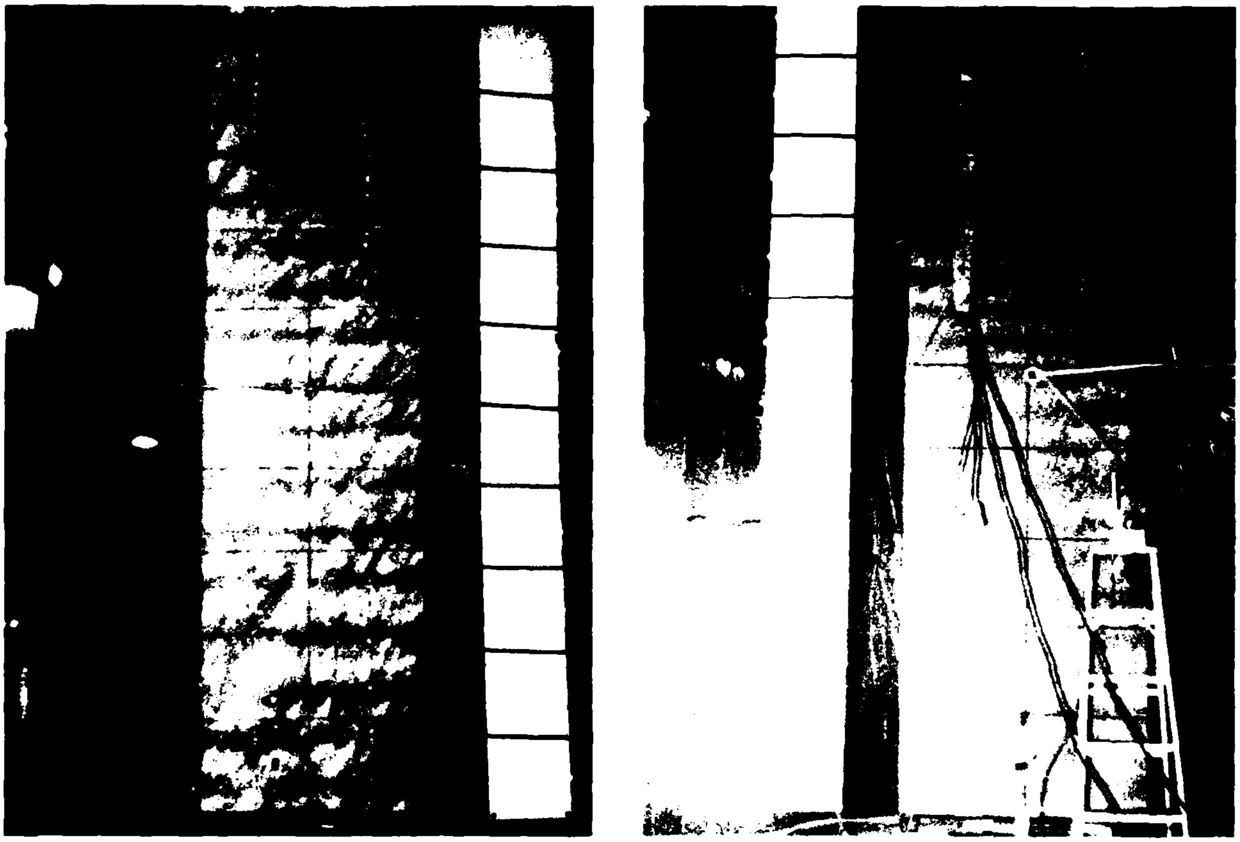
Figure 33. Side A of panel during test 9 at t=150 min. Frost has formed on the uncoated part and rundown can be seen on the PEG strip.

Figure 34. Light array positioned near top half of side B during test 10, t= 90 min.

Test 10

This test was run in the early evening to midnight under fairly overcast conditions, but with a cooling of the test chamber of approximately 7°F (3.9°C) in the five hours. Artificial fog conditions were maintained and an IR lamp panel to simulate incident solar radiation on the top half of side B was turned on at 111 min into the test when the surface temperature there had decreased to the freezing point (Fig. 34). The heat output of the lamp panel was increased at 180 min and again at 240 min to keep the panel surface temperature in the vicinity of the lamps above the freezing point.

Within the first 30 min, a light frost was visible on the thinner spots on side A and small (< 0.5-mm) condensation droplets were visible on side B with frost in the SOFI cavities. An hour later, side A was about 40% frosted in all relatively thin SOFI areas with the other 60% being wet from condensation. The droplet size had grown on side B and some droplet coalescence and migration was apparent. At the end of 2 hr side A was 70% covered with frost and frozen water, and 30% wet. The lamps on the top half of side B of the panel had begun melting frost so that the panel surface became very wet and water flowed down to the lower half of the panel



a. Side A approximately 70% frost-covered.

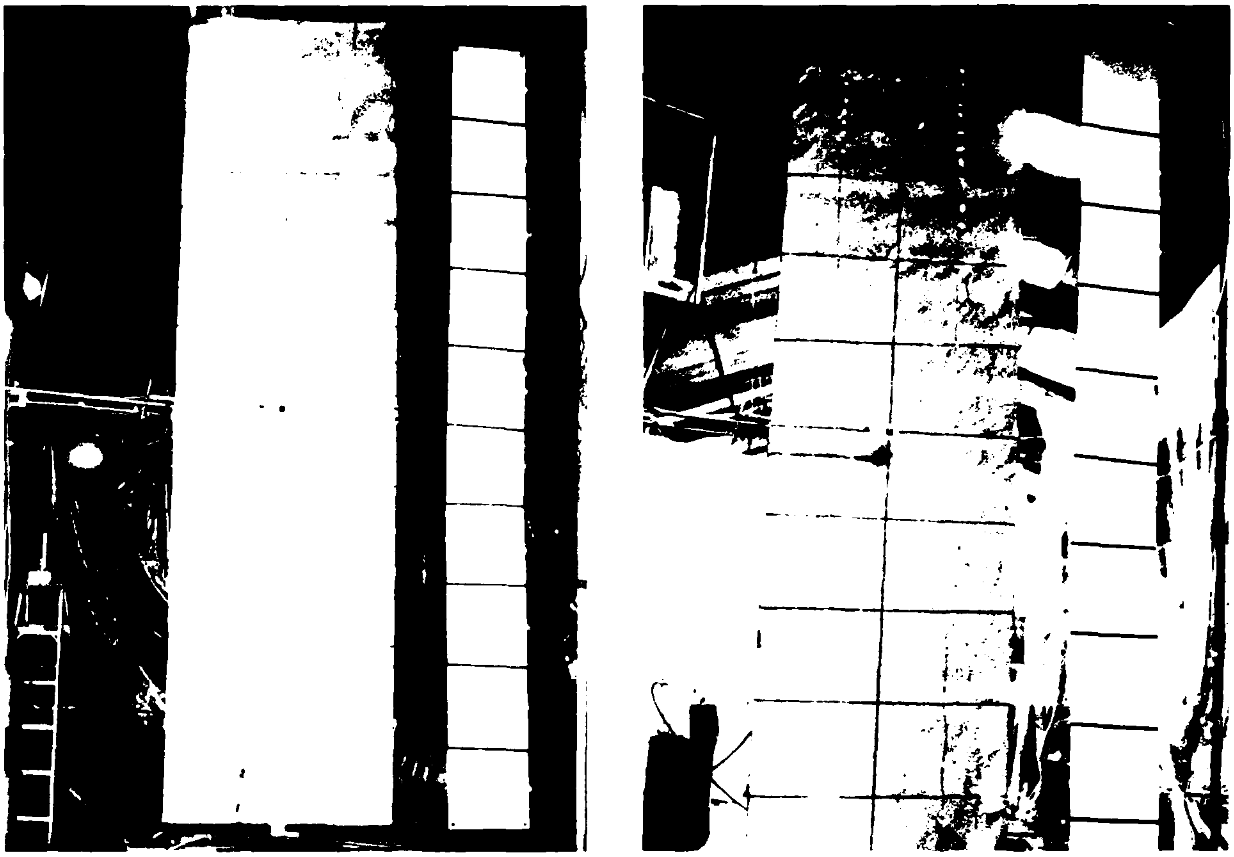
b. Side B, frost melted by heat input from lamp array.

Figure 35. Panel during test 10, t = 120 min.

Table 9. Water rundown data, test 10.

Test time (min)	Drip pan	Total mass (g)	Drip pan mass (g)	Rundown (g/15 cm)
210	BL	57.8	45.3	12.5
240	BL	44.95	44.8	0.15

(Fig. 35). Water rundown data for this test are presented in Table 9. In the next 60 min water rundown from the top of side B filled the frosted cavities and depressions in the SOFI surface on the lower half and froze into solid pieces of ice. Patches of ice with areas greater than 3 cm^2 and thicknesses in the range from 0.8 to 1.6 mm were common at 3 hr into the test. After 4 hours side A was about 95% frost covered with very little ice or liquid water visible, and the growth of ice patches on side B continued steadily as water rundown generated by the light array flowed over them. At the end of the test ice thicknesses measured on side B ranged between 1.2 and 4.8 mm. The diameters of the ice patches corresponding to these thickness measurements also ranged between 1.2 and 4.8 mm.



a. Side A of panel at conclusion of test.

b. Side A 15 minutes after a forced ambient air flow was started with a fan. Most of the frost has melted.

Figure 36. Extensive frost cover during test 10.

After the test was completed, an add-on experiment was performed. Side A of the panel held a large accumulation of frost. A fan blowing air at room temperature (52°F) was turned on and positioned near side A of the panel. Within 15 min, most of the frost which had accumulated on that side had melted (Fig. 36).

Test 11

Test 11 was conducted in artificial fog conditions at relatively high temperatures. The test was initiated when outdoor conditions were generally overcast, but due to gradually clearing skies over the 5-hr period, the test chamber experienced a continuous increase in temperature. The building doors were closed to keep the temperature from increasing even more rapidly. This resulted in a thermal stratification in the building that at times approached 1.25°C/m.

Despite the warm test conditions, within the first 30 min there were ice crystals in the deepest SOFI cavities and some very light frost at the bottom of both sides of the panel (Fig. 37). The bottom 10% of side B also appeared slightly wet. In an hour the PEG on side A was wet and the other half of that side was frosted in all the thinner SOFI areas. Side B was

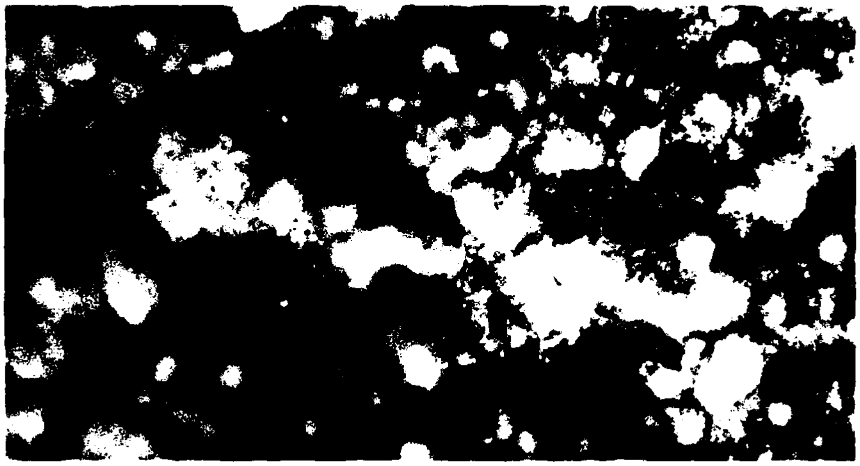


Figure 37. Closeup of frost in SOFI cavities on side A of the panel at t = 30 min during test 11.

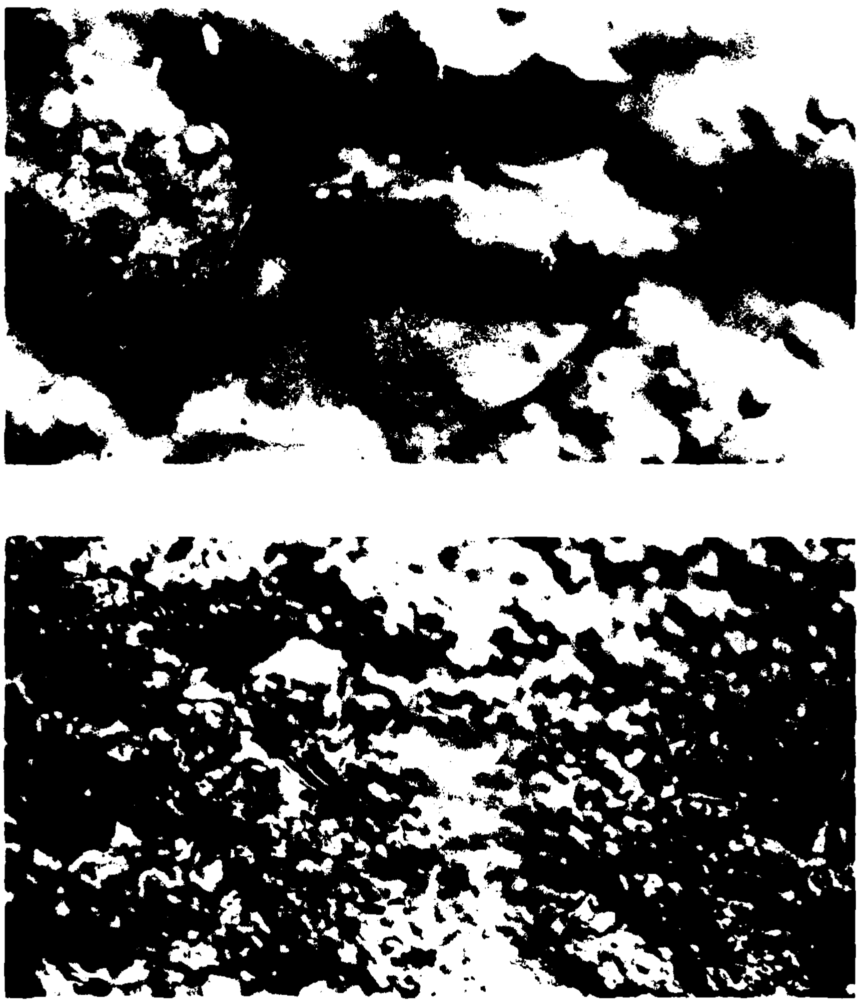


Figure 38. Closeups of ice and wet frost on side A at t = 270 min during test 11.

Table 10. Water rundown data, test 11.

Test time (min)	Drip pan	Total mass (g)	Drip pan mass (g)	Rundown (g/15 cm)
150	AL	50.5	42.1	7.4
	AR	55.3	44.9	10.4 PEG
	BL	52.0	45.3	6.7
	BR	44.5	44.1	0.4
180	AL	53.9	44.7	9.2
	AR	71.7	45.4	25.7 PEG
	BL	60.1	44.8	15.3
	BR	47.1	44.9	2.2
210	AL	50.0	42.1	7.9
	AR	81.5	44.9	36.6 PEG
	BL	58.7	45.3	13.4
	BR	51.2	44.4	6.8
240	AL	52.7	44.7	8.0
	AR	89.9	45.4	44.4 PEG
	BL	51.5	44.8	6.7
	BR	61.8	44.9	16.9
270	AL	51.7	42.1	9.6
	AR	98.2	44.9	53.3 PEG
	BL	74.9	45.3	29.6
	BR	48.2	44.4	3.8
300	AL	51.7	44.7	7.0
	AR	119.3	45.4	53.9 PEG
	BL	86.5	44.8	41.7
	BR	51.4	44.9	6.5

wet in the thinner areas. Figure 38 shows a closeup view of the ice and wet frost that had formed on side A by late in the test.

Intermittent rundown started on side B after about 2 hr and continued at increasing rates for the next 3 hr (Table 10). During this test special attention was paid to the rates of condensation and rundown, and additional data were taken at side B at several points in the test.

While the condensation/rundown samples were being taken on side B, a hot film anemometer was used to develop a picture of the boundary layer profile on side A. These data are presented in Table 11. Velocity profiles were taken across the boundary layer, perpendicular to the panel at four points along the panel centerline. Horizontal lines painted on the surface of the panel at 1.5-ft (0.46-m) increments were used to vertically locate the profiles. Profiles 1-4 were located at 1.68, 1.83, 2.59 and 2.74 m, respectively, from the top of the panel. The velocities, measured in the vertical direction, are presented as a mean value and a fluctuating turbulent value. Velocity fluctuations about the mean are bounded above

Table 11. Boundary layer velocity data, test 11.

Distance to Panel [cm]	Profile #1 [m/s]	Profile #2 [m/s]	Profile #3 [m/s]	Profile #4 [m/s]
0.5	--	.44 ± .16	.28 ± .08	.50 ± .20
1.5	--	.40 ± .20	.40 ± .24	.48 ± .24
2.5	--	.32 ± .20	.40 ± .24	.46 ± .24
3.5	--	.28 ± .24	.36 ± .24	.46 ± .24
4.5	--	.26 ± .24	.36 ± .24	.44 ± .28
5.5	--	.28 ± .28	.32 ± .24	.32 ± .24
6.5	.24 ± .20	.24 ± .24	.24 ± .24	.30 ± .22
7.5	.24 ± .20	.20 ± .20	.20 ± .20	.30 ± .24
8.5	.18 ± .18	.20 ± .20	.16 ± .16	.26 ± .24
9.5	.16 ± .16	.16 ± .16	.16 ± .16	.24 ± .20
10.5	.16 ± .16	.20 ± .20	.20 ± .20	?
11.5	.10 ± .10	.10 ± .10	.16 ± .16	.12 ± .12
12.5	.14 ± .14	--	.16 ± .16	--
13.5	--	--	.20 ± .20	--
14.5	--	--	.24 ± .24	--
15.5	--		.24 ± .24	.20 ± .20
16.5	--	--	.28 ± .28	.16 ± .16
17.5	--	--	--	.12 ± .12

and below by the magnitude of the turbulent velocity that is given. Several features of the natural convective flow can be observed in this data set. The velocity profiles did not change significantly in the longitudinal direction. Comparable velocities were recorded in all profiles at an equivalent distance from the surface. This is characteristic of a fully developed turbulent boundary layer. For this test the thickness of the boundary layer was about 20 cm. A steep velocity gradient existed immediately adjacent to the panel. Maximum velocities were recorded between 0.5 and 4.0 cm from the panel surface. Further from the surface, the magnitude of the velocity gradually decreased. It can be noted that the magnitude of the turbulent velocity fluctuation is suppressed in the immediate vicinity (<1 cm) of the panel. The propeller anemometer held immediately adjacent to the panel at the location of profile 4 read 0.13 m/s. This averaged value over 10 cm is significantly less than that determined from the data recorded using the hot film anemometer. This suggests that, in low velocity flow, the actual velocity is underestimated by the propeller anemometer. At higher velocities, it is expected that the accuracy of this measurement should improve (see Test 13).

Because the ambient temperature reached about 70°F by the end of the test, the icing on the panel was not extensive. Small areas of frost and ice remained, although wetted on side A and at the thinnest spots on side B (e.g. thermocouple 50).

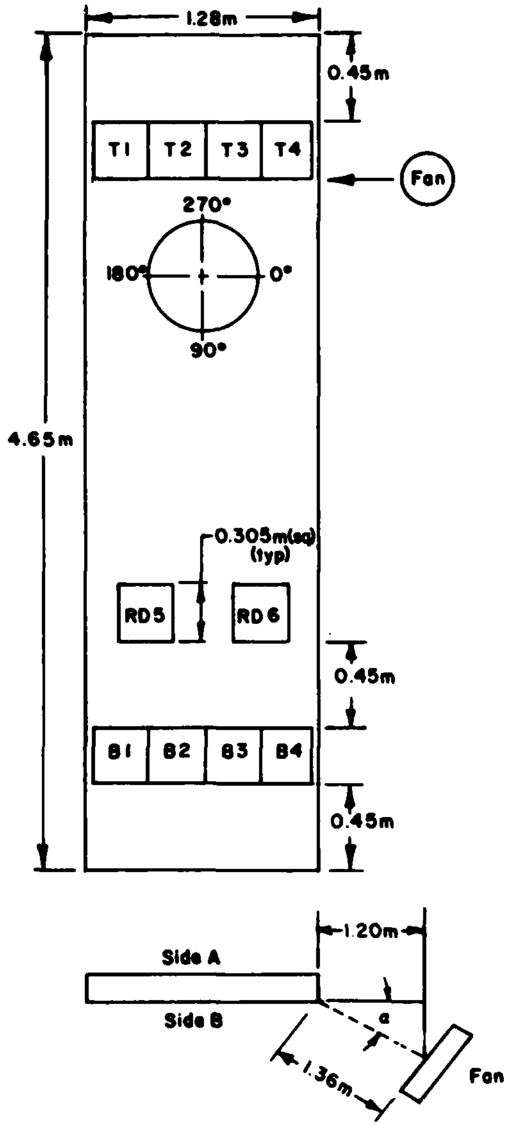


Figure 39. Locations of water condensation/retention test areas used in test 11 and fan location and air flow directions (test 12).

To determine the quantity of water present on a specified area of the cryopanel before rundown will occur, and to see whether rundown was heavier near the bottom of the panel after it had been allowed to proceed undisturbed for a time, the following measurements were made. Four areas, each 929 cm^2 (1 ft^2) in size were marked out at the top and bottom of the panel and labeled T1 through T4 and B1 through B4. Two additional areas of the same size near the middle of the panel were designated and labeled RD5 and RD6. Figure 39 presents a map of side B of the cryopanel showing the locations of these areas. At one hour after the start of the test the areas T1 and B1 were wiped dry using disposable paper wipes that had been previously weighed in sample jars. After collecting the water on the panel the wipes were returned to the jars and weighed again to determine the amount of water on the panel surface at that time. Experimentation had shown that the quantity of moisture present on the surface could be determined using these wipes with an accuracy of greater than 90% of the total surface moisture. This procedure was repeated at 2, 3, and 4 hr into the test for the other three pairs of areas. All eight areas were sampled again at the end

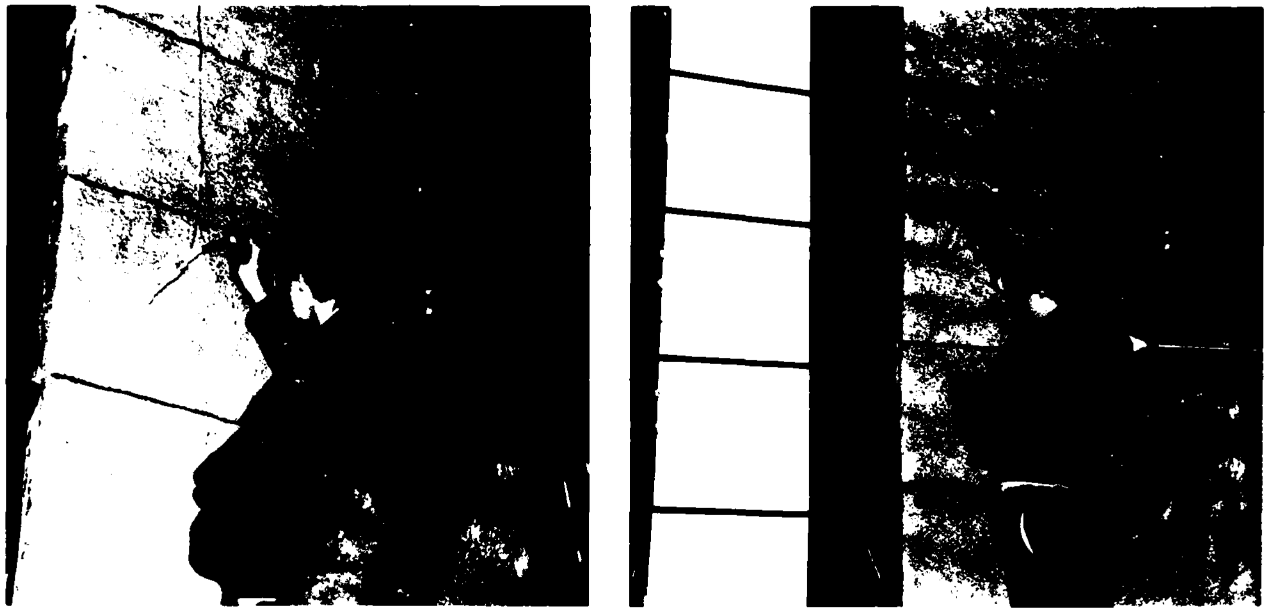
Table 12. Water condensation/retention data, test 11.

Time (min)	Area	Total (g)	Dry container mass (g)	Sample mass (g)
60	T1	248.05	247.52	0.53
	B1	248.50	246.69	1.81
120	T2	248.11	245.71	2.40
	B2	254.10	247.13	6.97
180	T3	251.98	247.63	4.35
	B3	250.70	246.02	4.68
240	T4	254.48	246.50	7.98
	B4	255.49	246.44	9.05
300	T1	253.28	246.07	7.21
	B1	254.79	246.80	7.99
	T2	254.19	245.52	8.64
	B2	255.52	247.62	7.90
	T3	251.80	246.48	5.32
	B3	253.20	248.05	5.15
	T4	249.19	246.39	2.80
	B4	254.50	248.79	5.71
133	RD5	251.29	245.74	5.55
166	RD6	257.66	247.11	10.55

of the test (t=5 hr). A sample was taken at area RD5 when the condensation droplets were observed just starting to move on the panel. RD6 was sampled when rundown was fully established at that area. The water condensation/retention data are given in Table 12.

Test 12

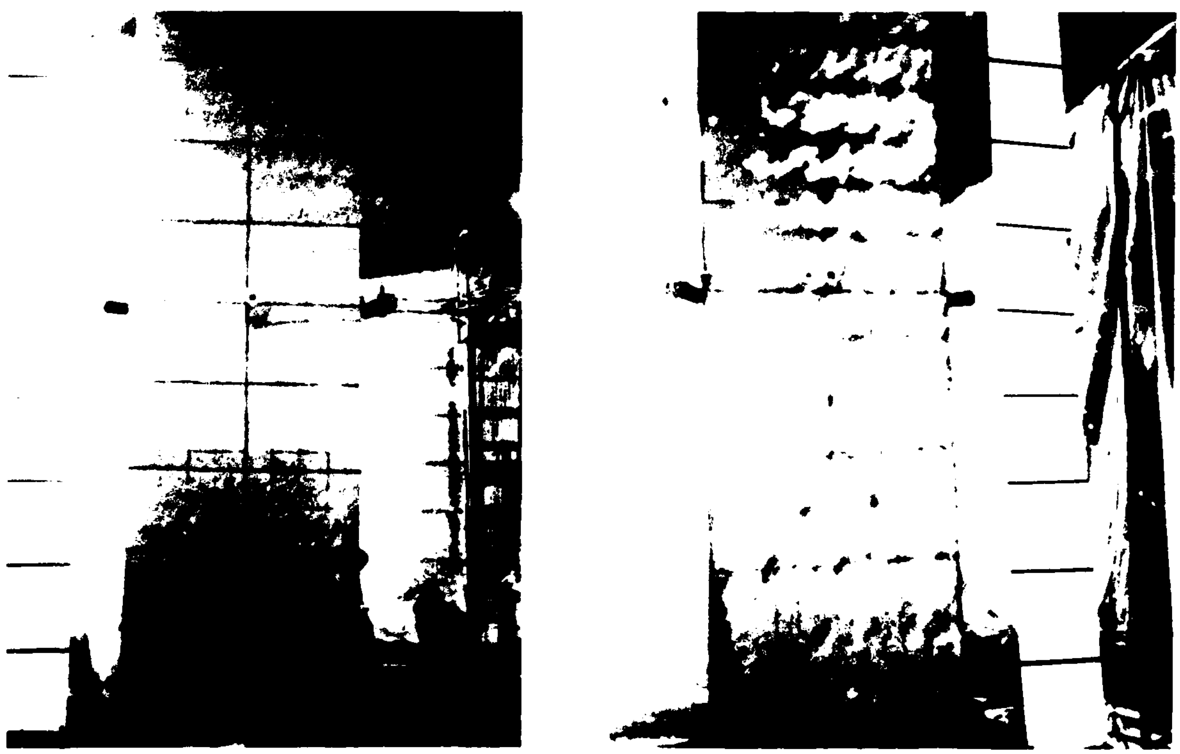
The test was conducted in artificial fog conditions, at temperatures where we had previously observed a large accumulation of frost on the panel (see test 2). Thirty minutes after the start of the test a fan was turned on near the top of the panel. It was located on side B (Fig. 39), and dominated the air flow across the upper 2 m of the panel. Air flow direction and speed were measured as shown in Figure 40. Recorded wind speed and direction, defined in Figure 39, can be found in Table 13. The locations of the bulk of the measurements were at the thermocouples. MP1 and MP2 were the mid-points between the upper four and lower four thermocouples on side B, respectively. Generally, it can be said that the wind prevented frost from forming on the surface of side B and acted to melt any frost already present. At 30 min small patches of frost were present in the low spots on both sides of the panel. Higher up on side B there was no visible frost and condensation occurred there first. The top of side A of the panel had accumulated some frost. When the fan was turned on the frost on side A was affected. The frost melted on a roughly 1-m-diam semicircular section of the panel, near the edge with the fan. Figure 41 shows the surface conditions of both sides of the panel subject to the forced air flow.



a. Flow direction measurement in the boundary layer.

b. Average flow speed measurement in the near-surface portion of the boundary layer.

Figure 40. Forced air flow on side B of panel, test 12.



a. Fan on side B prevents frost/ice formation.

b. Partial melt of frost on side A due to fan-induced air flow.

Figure 41. Panel at t = 270 min during test 12.

Table 13. Forced convection velocities on side B, test 12.

Time (min)	Fan Setting	Location	Wind Speed (m/s)	Wind Direction
30	Low	12	0.75	135°
		13	0.14	90
		14	0.13	90
		16	0.53	135
		17	0.10	90
		18	0.0	--
		MP1	0.13	90
60	Med	12	0.53	135
		13	0.12	90
		14	0.10	90
		16	0.76	135
		17	0.12	90
		18	0.03	90
		MP1	0.13	90
120	High	12	0.62	135
		13	0.12	90
		14	0.16	90
		16	0.73	135
		17	0.03	90
		18	0.02	90
		MP1	0.04	90
300	Low	11	0.76	180
		12	1.17	135
		15	0.82	180
		16	0.88	135
		MP2	1.09	180

There was continuous rundown for the rest of the test from the top of side B where wind from the fan kept the surface too warm for frost to form (Table 14). For the hour following the fan startup, this resulted in small ice pellets on the lower third of the panel in SOFI cavities and wetted frost in depressions which refroze to form denser patches of ice. As the test progressed, some rundown froze in place, creating an interconnected network of ice pellets, and larger ice patches. Large patches of ice, some about 200 to 300 cm^2, were visible more than halfway up the panel. This was the heaviest icing ever observed during a test.

The effect of the fairly regular vertical thickness variation (waviness) on side A (similar to that seen on the ET) was amplified in the region partially affected by the air flow from the fan. At first a light frost covered the whole region, which was slightly heavier in the SOFI troughs than on the crests. The frost melting effect of the fan was confined to the SOFI wave crests, and the meltwater that ran down the panel encountered a thick layer of frost in the trough areas. It quickly froze

Table 14. Water rundown data, test 12.

Test time (min)	Drip pan	Total mass (g)	Drip pan mass (g)	Rundown (g/15 cm)
150 min	AL	42.5	42.1	0.4
	AR	45.4	44.9	0.5
	BL	53.8	45.3	8.5
	BR	44.9	44.4	0.5
180	AL	44.8	44.7	0.1
	AR	45.5	44.4	0.1
	BL	51.0	44.8	6.2
	BR	45.2	44.9	0.3
210	AL	42.3	42.1	0.2
	AR	45.0	44.9	0.1
	BL	48.7	45.3	3.4
	BR	45.3	44.4	0.9
240	AL	44.8	44.7	0.1
	AR	45.5	45.4	0.1
	BL	50.7	44.8	5.9
	BR	45.3	44.9	0.4
270	AL	42.4	42.1	0.3
	AR	45.0	44.9	0.1
	BL	53.8	45.3	8.5
	BR	46.1	44.4	1.7
310	AL	44.9	44.7	0.2
	AR	45.1	45.4	0.1
	BL	55.2	44.9	10.3
	BR	46.8	44.9	1.9

to form a horizontal strip of ice. There were several cycles of an obvious horizontal pattern of frosted, then wet, then iced stripes on the SOFI. The ice was of a thickness and size to pose a problem to the orbiter if a similar situation developed on the ET.

Test 13

Test 13 was conducted in warm, humid, artificial fog conditions with IR lamps turned onto the upper half of side B at 30 min into the test. Both sides of the panel were sprayed with a hose until the SOFI surface was saturated before starting the LN_2 fill. By t=30 min enough additional condensation had occurred so that water droplets were migrating down the panel on both sides. After 1 hr, however, most of the water on side A had frozen; some water remained unfrozen at the thicker SOFI areas but the rest of side A had frost or frost growth on top of ice.

At 1 hr, rundown was noted on side B and ice began forming at the usual thinner SOFI spots. Ice thicknesses measured on side B at this time

Table 15. Water rundown data, test 13.

Test time (min)	Drip pan	Total mass (g)	Drip pan mass (g)	Rundown (g/15 cm)
60	AL	42.2	42.1	0.1
	AR	45.1	44.9	0.2
	BL	56.8	45.3	11.5
	BR	45.1	44.4	0.7
90	AL	44.7	44.7	0
	AR	45.5	45.4	0.1
	BL	66.3	44.8	21.5
	BR	46.7	44.9	1.8
120	AL	42.1	42.1	0
	AR	44.9	44.9	0
	BL	58.3	45.3	13.0
	BR	46.6	44.4	2.2
150	AL	44.7	44.7	0
	AR	45.4	45.4	0
	BL	61.3	44.8	16.5
	BR	48.3	44.9	3.4
180	AL	42.1	42.1	0
	AR	44.9	44.9	0
	BL	72.4	45.3	27.1
	BR	48.1	44.4	3.7
210	AL	44.8	44.7	0.1
	AR	45.4	45.4	0
	BL	88.0	44.8	43.2
	BR	48.9	44.9	4.0
240	AL	42.1	42.1	0
	AR	44.9	44.9	0
	BL	64.3	45.3	19.0
	BR	47.1	44.4	2.7
270	AL	44.7	44.7	0
	AR	45.4	45.4	0
	BL	54.1	44.8	9.3
	BR	48.7	44.9	3.8

ranged between 0.4 and 0.8 mm. After 2-1/2 hr, side A was approximately 60% covered by frost and patches of wet ice, and side B had significant icing in thin spots on the bottom 10% of the panel (Fig. 42). There were frozen rundown rivulets forming there also, ranging from 2.0 to 3.9 mm thick. The complete water rundown data set is given in Table 15.

A velocity profile was recorded with the hot film anemometer across the boundary layer. The profile was located on the centerline of side A, 3

a. Side A approximately 60% frost-covered.

b. Side B with ice patches near the bottom of the panel.

Figure 42. Panel at t = 150 min during test 13.

Table 16. Boundary layer velocity data, test 13.

Distance to panel [cm]	Velocity [m/s]
0.4	0.55 ± .15
0.7	0.57 ± .15
1.0	0.55 ± .22
1.5	0.62 ± .22
2.5	0.55 ± .20
4.0	0.55 ± .20
6.0	0.45 ± .25
8.0	0.37 ± .25
10.0	0.37 ± .25
13.0	0.36 ± .25
16.0	0.35 ± .27
20.0	0.22 ± .22
22.0	0.17 ± .17
25.0	0.10 ± .10

Table 17. Water rundown data, test 14.

Test time (min)	Drip pan	Total mass (g)	Drip pan mass (g)	Rundown (g/15 cm)
60	AL	44.6	42.1	2.5
	AR	48.3	44.9	3.4
	BL	55.8	45.3	10.5
	BR	44.5	44.4	0.1
90	AL	93.6	44.7	48.9
	AR	139.4	45.4	94.0
	BL	114.6	44.8	69.8
	BR	48.6	44.9	3.7
120	AL	99.0	42.1	56.9
	AR	140.7	44.9	95.8
	BL	80.1	45.3	34.8
	BR	66.6	44.4	22.2
150	AL	121.0	44.7	76.3
	AR	103.7	45.4	68.3
	BL	60.0	44.8	15.2
	BR	50.4	44.9	5.5
180	AL	286.1^{+}	42.1	244.0^{+} overflow
	AR	116.4	44.9	71.5
	BL	104.5	45.3	59.2
	BR	49.5	44.4	5.1
210	AL	49.2	44.7	4.5
	AR	139.5	45.4	94.1
	BL	113.9	44.8	69.1
	BR	60.2	44.9	15.3
240	AL	81.7	42.1	39.6
	AR	105.1	44.9	60.2
	BL	161.2	45.3	115.9
	BR	123.1	44.4	78.7
270	AL	116.0	44.7	71.3
	AR	161.0	45.4	115.6
	BL	127.6	44.8	82.8
	BR	182.1	44.9	37.2
300	AL	91.6	42.1	49.5
	AR	213.5	44.9	168.6
	BL	267.6	44.4	222.3
	BR	130.0	44.4	85.6

m from the top of the panel. The velocities measured in the vertical direction and the boundary layer thickness were greater than those recorded in test 11 (Table 16). The maximum velocities again occurred within 4 cm of the panel and the general shape of the profile was as before. The propeller anemometer recorded an average velocity over the 10 cm nearest the panel of 0.40 m/s. This value, though a bit low, is more nearly in agree-

Table 18. Ice accretion rates, test 14.

Test time (min)	Ice thickness (mm)	Description
90	---	Glaze ice on left half of side A, some glaze side B
110	0.8	Several places in SOFI cavities, both sides
130	2.4, 1.6	In SOFI cavities, interconnected by glaze ice, side A 2.4 mm max, side B 1.6 mm max, glazed patches
150	4.0	Depth at a water rivulet frozen in place, several cms long; side A totally glazed
	1.6, 2.8	Side B, thickest ice near location #14
180	1.6, 2.4	Side B patchy glazed ice covering hemispherical ice formed in SOFI cavities
	3.1	Thickest at #14, side B
210	4.7	Side A many small areas this thick covered by thinner glaze ice
	9.5	Frozen water rivulet, side A
240	3.1 - 4.0	Side A, many areas ≈ 5-10 cm^2 this thick connected by thinner glaze
	8.0	Thickest at bottom of panel, side A
	1.6 - 3.2	Side B, many areas ≈ 5-10 cm^2 this thick, similar to side A
	4.7	Large area ≈ 100 cm^2 ice in thin area of SOFI, side B

ment with those recorded using the hot film anemometer than was that in test 11.

Test 14

This test was conducted during foggy, early morning conditions with water rundown added through a drip hose at the top of the panel as in test 8. The rundown was initiated approximately 30 min after the start of the test. Test conditions were slightly warmer (≈ 5°F, 2.7°C) than in test 8, and the rundown rate was increased to 61 mL/min from 25 mL/min used in test 8. The relative humidity in the test chamber was the same as for the previous rundown test, about 80%-85%.

The higher rundown rate was evident at the bottom of the panel by higher collection rates in the drip pans (Table 17). Although rundown collection varied from section to section during the test, the percentage increase of water collection by the drip pans was generally smaller than the percentage increase in rundown added at the top of the panel. Even though the temperature was higher, ice accretion seemed to proceed as quickly or more quickly than in test 8 (Table 18). Again, no noticeable erosion of ice thickness due to an overabundance of rundown water occurred.

DESCRIPTION OF PROCESSES

Process of Rundown

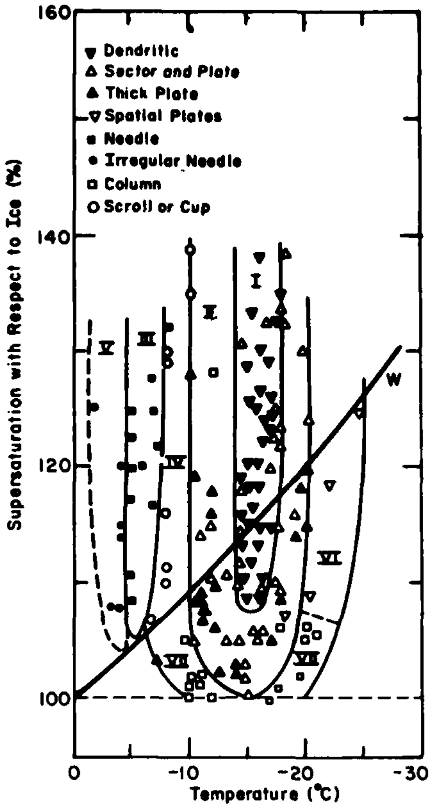
As the SOFI surface temperature cooled below the dew point, condensation of moisture began. Minute droplets, on the order of 5 µm in diameter, first formed on the surface and then grew until they could not be supported by surface tension. Although the inside of the cavity is not directly exposed to the air flow along the SOFI surface, vapor transfer rapidly transmitted water to the bottom of the cavities. Because of the low thermal conductivity of SOFI, large temperature gradients developed within the SOFI and large temperature differences existed along the cell surfaces. Since the temperature inside a cavity was significantly lower than at nearby higher SOFI points, a large thermal gradient existed which forced water vapor into the cavity. Cavities were gradually filled as the vapor condensed.

When there was a large amount of condensation, rundown occurred in rivulets. In order to visualize the process of rundown an understanding of the rivulet behavior is important. Rivulets expended some of their water to wet their path, but also collected some water from the drops along their passage. The flow of a rivulet was occasionally augmented by overgrown drops located near it. Progress of a rivulet was generally intermittent and controlled by the supply of water. Thick areas on the SOFI surface stayed dry until all thin areas and cavities were wet.

Part of the SOFI surface of the panel was covered by small disconnected cells about 1 mm in diameter and many small cavities. When the rivulets encountered an area covered by these disconnected cells, the movement of the water became difficult to observe. Apparently the rivulet spread out widely around the disconnected cells. Later, the rivulet might reemerge nearby. Although rivulets tended to establish and follow a specific route, this was not always the case.

Process of frost formation

When the panel surface temperature decreased and passed quickly through the freezing point, no observable liquid condensation appeared. Frost began to grow in the cavities on the thinner areas of the lower portion of the panel within one hour after the initiation of LN_2 filling. Usually plate crystals appeared first, in the cavities between the cells of SOFI. According to the Nakaya diagram (Fig. 43) plate crystals like those observed on the SOFI surface grow below -5°C, indicating that the surface temperature inside of the cavity was often below -5°C. Irregular needles, the crystal form found in warmer growth conditions (Fig. 44), was the type of frost usually seen on the surface of the panel during the later stages



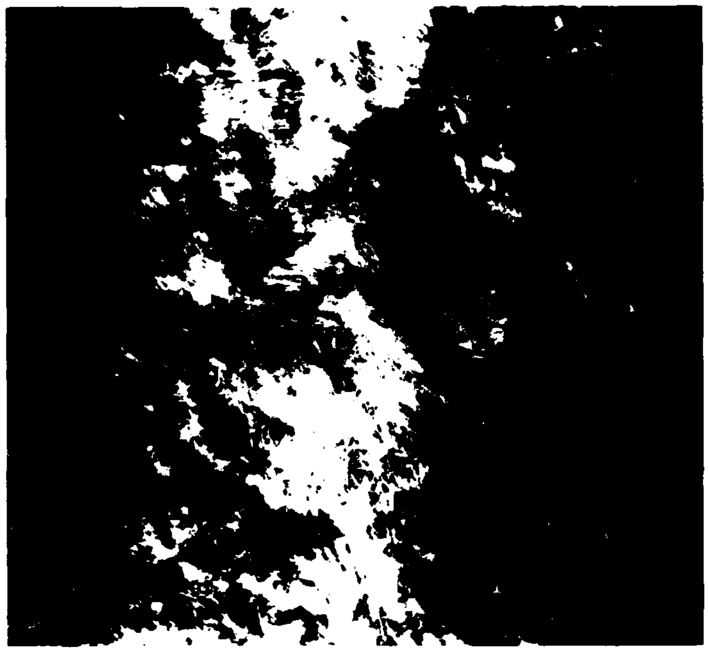


Figure 43. Nakaya diagram showing the dependence of ice crystal type upon temperature.

Figure 44. Closeup of needle frost on the surface of the panel.

of a test in which frost formed. Although the thickness of the frost frequently exceeded 5 mm within the 5-hour test, the density of the frost was estimated to be below 0.1 g/cm^3.

Process of ice formation

Three different processes of ice formation were noticed during the test series. The first was the in-situ freezing of condensed water in cavities between individual cells of foam insulation. This process most often occurred after a large volume of condensate had accumulated on the surface and the surface temperature decreased due to a change in environmental conditions (Fig. 45).

When rundown water, produced by processes discussed earlier, encountered the thin SOFI areas where frost had previously formed, seepage into the frost and then solid ice formation occurred. This second mechanism was observed frequently and seemed to be the most important cause of heavy ice formation. An abundant water supply combined with the large thermal conductivity of the ice layer allowed thick ice formation to occur. During large volume rundown conditions, a water rivulet kept a continuous supply of water flowing over an ice patch, causing a large patch of ice to form over a thin region of SOFI. High density ice of thicknesses which exceeded 10 mm were observed as a result of this process. This ice is a potential hazard to the thermal protective tiles of the orbiter.

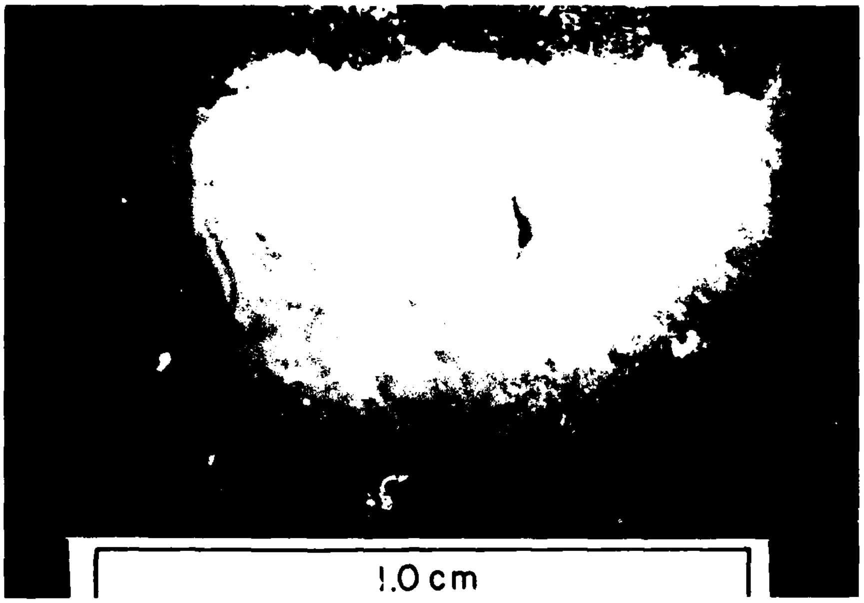


Figure 45. Closeup of frozen water droplet which has been covered with frost.

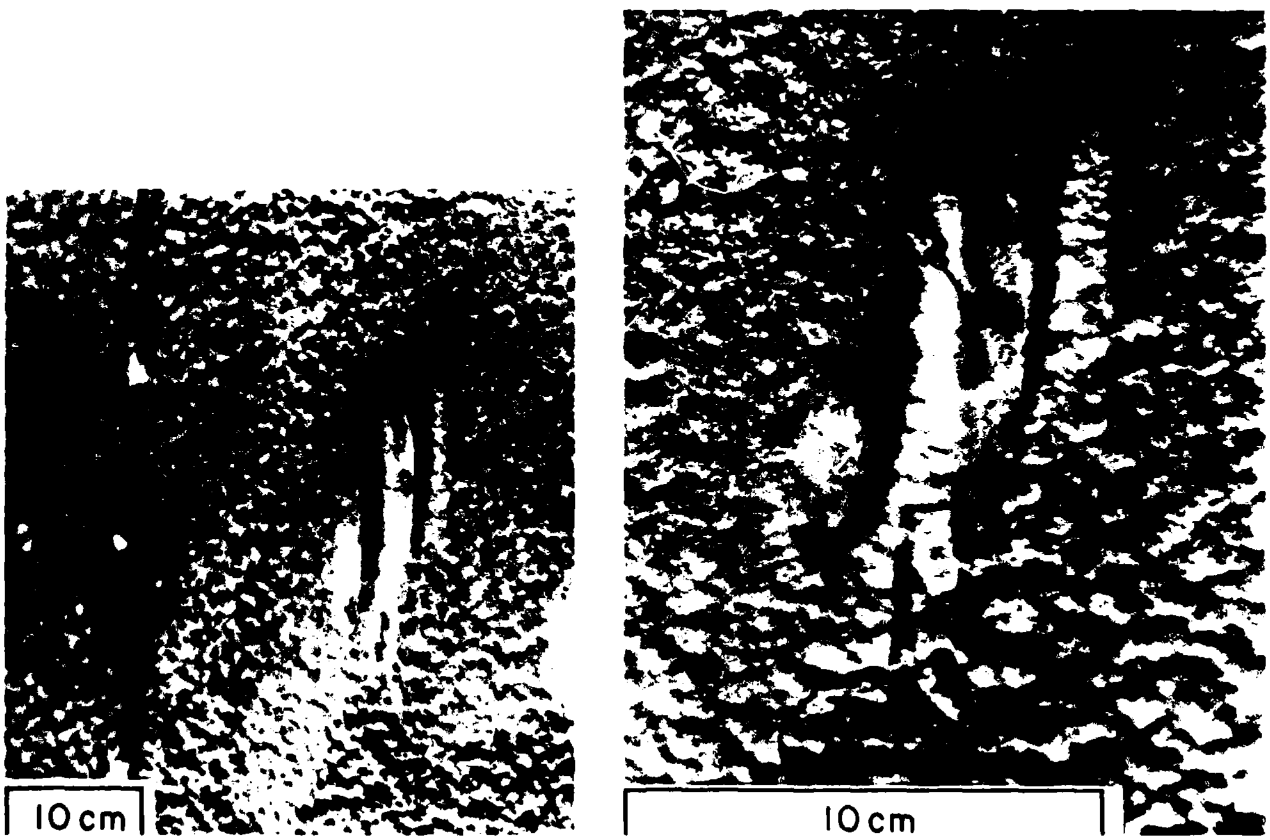


Figure 46. Water rivulet frozen on top of an existing ice patch.

Occasionally an isolated water drop or a water rivulet froze onto the smooth surface of an ice patch without first spreading out on the ice (Fig. 46). Such isolated frozen drops and rivulets were found when the surface temperature was falling rapidly after rundown had begun.

PYROMETER/THERMOCOUPLE TEMPERATURE MEASUREMENT CORRELATIONS

Nineteen thermocouples were placed on the cryopanel. Sixteen of them were placed at points of SOFI thickness within the specified tolerance about the nominal thickness. Two thermocouples were placed at thin spots on each side of the panel and one was placed at the thickest area of SOFI on side B. However, data provided by the thermocouples were not representative of the surface temperature. Thermocouples measure temperature at the point where they are located. Moreover, sometimes the thermocouples were covered by ice or frost during a test. The measurements of those thermocouples gave the temperatures at the interface between the SOFI and the ice or frost.

In order to measure a more representative average surface temperature, the Omega infrared pyrometer was used. This pyrometer measures infrared radiation between 8 and 14 μm in wavelength and compares it with black body radiation at the ambient temperature. The narrow wavelength band enabled measurements to be made at a distance from the surface without significant attenuation of the radiation being measured. Information originally supplied to us indicated that the emissivity of SOFI is 0.86. Using this emissivity, a rather large discrepancy between the pyrometer and the thermocouple measurements was observed. Further studies of the data indicated that an emissivity of 0.92 is a more appropriate value, and most of the subsequent measurements made with the pyrometer used an emissivity setting of 0.92.

It was also noted during the tests that the emissivity of an ice/frost-covered or wet SOFI surface can be considerably different from the emissivity of dry SOFI. Surface temperatures measured with the pyrometer agreed reasonably well with those from thermocouples placed near the nominal thickness points during the early stages of a test. As frost or ice grew over the thermocouples, the agreement between the pyrometer and thermocouple-based temperatures became less consistent. During much of a test when the SOFI surface became covered with water, ice or frost surface temperature could be calculated from the pyrometer reading using the quadratic equation given in Appendix A with coefficients dependent upon surface conditions.

SOFI THICKNESS VARIABILITY

Figure 47 is a composite of infrared photographs of side A of the panel in which the wave pattern in SOFI thickness can be seen. It illustrates the effect of varying SOFI thickness upon panel surface temperature. Because of this effect, a more detailed examination of the SOFI thickness was performed. Four profiles of the SOFI thickness were made across side B of the panel. A level was placed on the surface, resting on at least two of the thicker SOFI areas, and the distance from the edge of the level to the surface was recorded every centimeter across the panel. Several actual depth measurements were made to correlate these measurements to actual SOFI depth to within ± 0.8 mm. The four profiles taken at 3.16, 3.59, 3.70 and 4.13 m from the top of the panel are presented in Figures

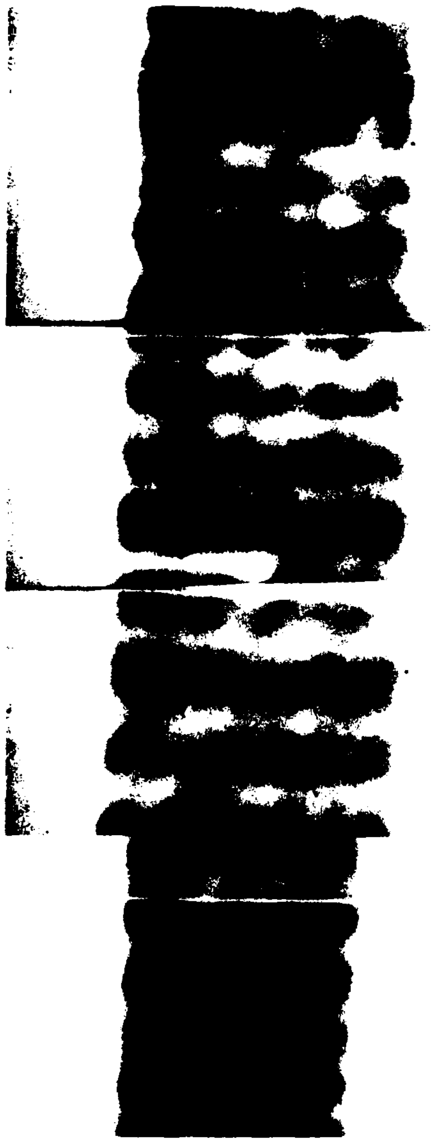


Figure 47. Composite of IR photographs of the panel surface. A regular pattern in the SOFI thickness can be noted.

48-51, respectively. The SOFI depth tapered off at the edges of the panel so the end points from each profile were discarded as not representative of the actual depth. The profiles show that even if the surface temperature at the nominal thickness (2.54 cm) is just above freezing, there is a significant portion of the surface where ice will form if water is available. Figure 52 is a histogram of SOFI depth from the four 125-point profiles which suggests that the actual average SOFI thickness on side B was somewhat less than the nominal thickness.

Large-scale undulations in SOFI thickness occur on the external tank. The amplitudes of these undulations were estimated from a photograph, assuming that the undulations were approximately sinusoidal in shape. These estimates indicated that at some locations the amplitude was 2 cm. This implies that the minimum SOFI thickness on the tank was about 1.5 cm. Patches of ice/frost have always been observed at this thickness in this test series, even in the warmest (about 70°F) tests.

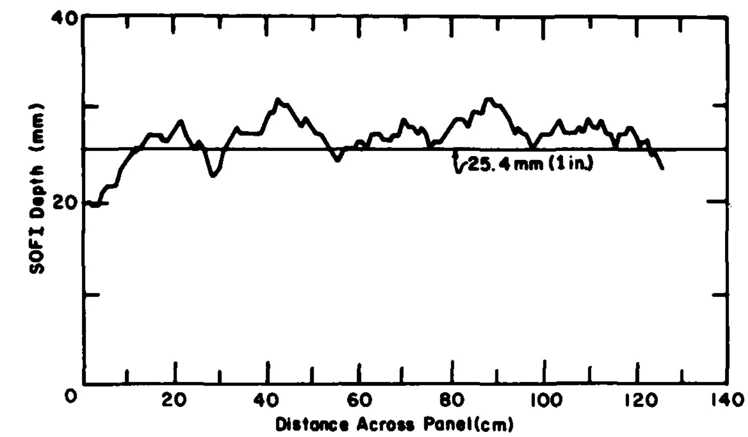


Figure 48. Horizontal profile of SOFI thickness on side B of panel, 3.16 m from the top.

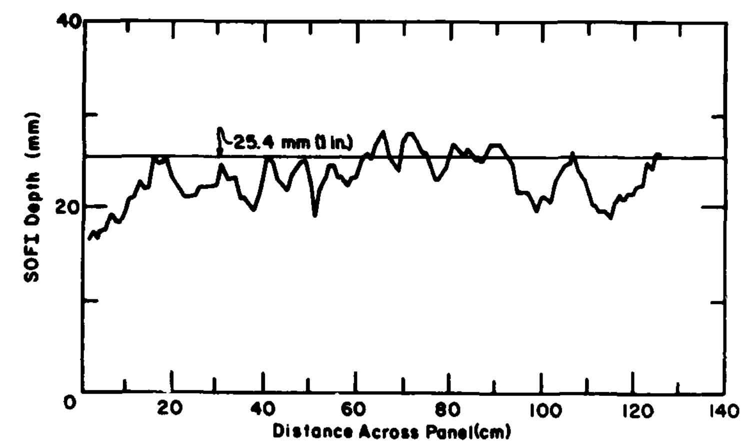


Figure 49. Horizontal profile of SOFI thickness on side B of panel, 3.59 m from the top.

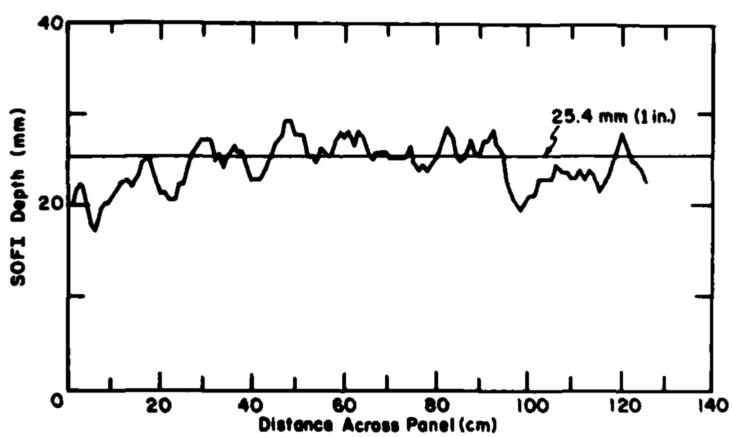


Figure 50. Horizontal profile of SOFI thickness on side B of panel, 3.70 m from the top.

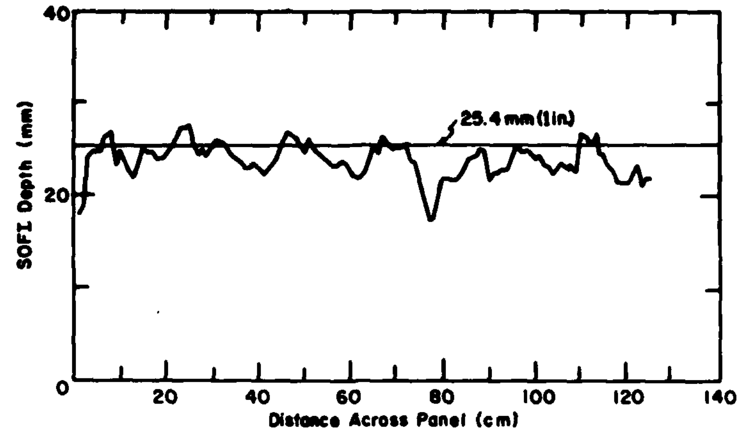


Figure 51. Horizontal profile of SOFI thickness on side B of the panel 4.13 m from the top.

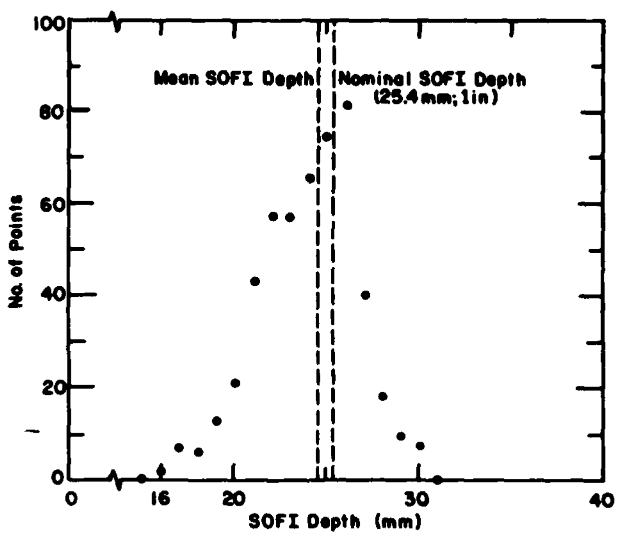


Figure 52. Histogram of SOFI depth measurements on side B of the panel. The mean SOFI depth was about 1 mm less than the nominal depth.

Figures 53 and 54 give steady state temperature data from the thermocouples mounted on the SOFI surface for tests 1 through 8. As expected, the surface temperatures for each SOFI depth varied significantly for different ambient conditions. An interesting feature of the data is that an increase in slope of the temperature - SOFI depth relationship occurred in five of these tests at a SOFI depth of about 20 mm (0.79 in.). At smaller depths, panel surface temperature decreased more quickly as SOFI depth decreased than at larger depths. For tests 1 through 6, the tests having higher humidity conditions exhibit the slope change. The formation of a relatively heavy frost during high humidity conditions which effectively insulates the thermocouples at the thinner SOFI points would explain the change in slope. Tests 7 and 8 were natural and artificial rundown tests, respectively. The existence of a slope change at ≈ 4°C for the test 7 data

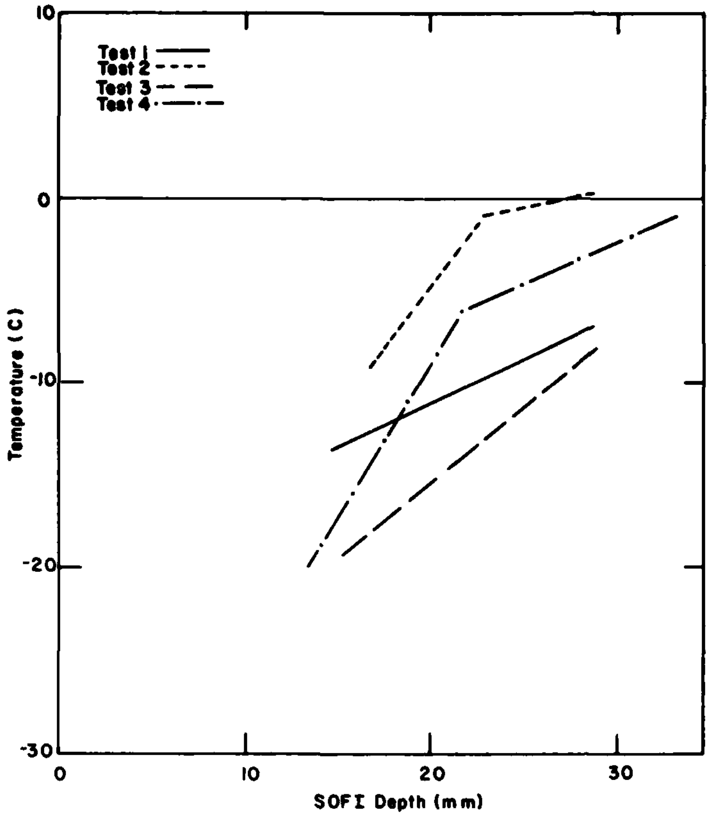


Figure 53. Steady-state thermograph temperatures plotted against SOFI depth for tests 1 through 4.

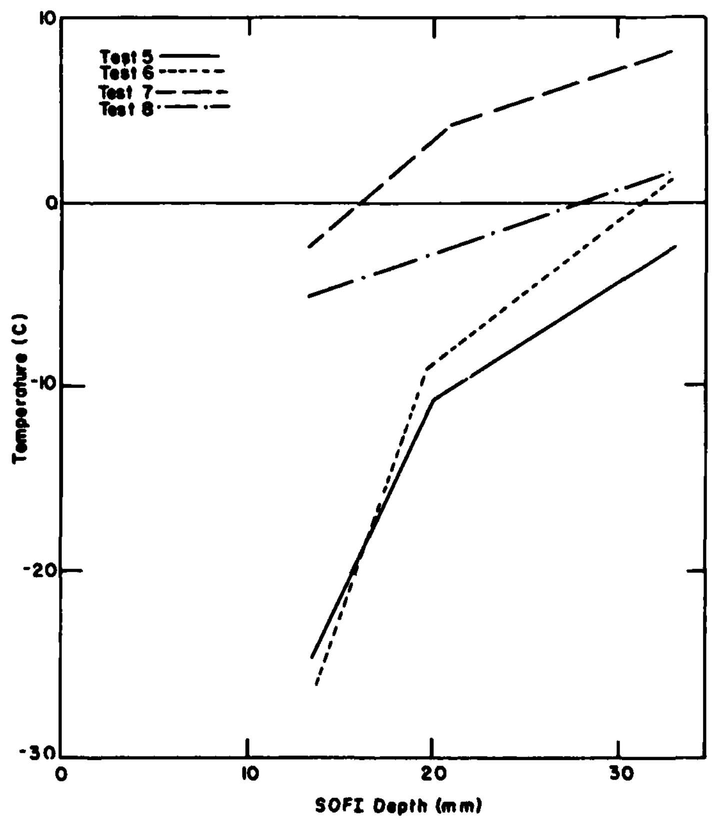


Figure 54. Steady-state thermocouple temperature plotted against SOFI depth for tests 5 through 8.

and the lack of a slope change in the test 8 data are harder to explain. Temperature - SOFI depth plots of other wet panel tests could be helpful in identifying the cause of this difference in behavior.

PEG EFFECTIVENESS

Three types of PEG were tested as a frost/ice suppressant on side A of the panel. The tested mixtures were PEG 400/1000, PEG 4000 and PEG 6000. All PEG mixtures were dissolved in water and sprayed on a 35.6-cm- (14-in.-) wide strip on the right half of side A. The mass of PEG applied was fixed, 450 g (1 lb) per 35.6-cm x 457.2-cm (14-in. x 180-in.) area for all three mixtures. The PEG 400/1000 coating was tested during test 5, PEG 4000 during test 9, and PEG 6000 during test 11. Although the frost conditions on side A were much more severe than on side B where the SOFI is thicker, the PEG coatings were able to prevent the formation of frost/ice during most of each test, except at the thinnest SOFI areas.

Although these coatings were able to prevent ice and frost formation under the tested conditions, certain problems were observed. First, the concentration of PEG collected in the drip pans decreased rather quickly with time, indicating that the effectiveness of the PEG coating had diminished. Secondly, the coating can be easily depleted by water so that rain or heavy fog may cause deterioration of effectiveness. A third problem is that the lower molecular weight PEG, such as the 400/1000 mixture, may melt slightly above room temperature, around 30°C (86°F). It may be possible to find certin matrix components (probably water insoluble) that would retain the PEG. If PEG were suspended in such a matrix material, abrasion of PEG would be slowed, prolonging the effectiveness of these coatings. D. Minsk of CRREL is now in the process of testing a variety of matrix materials.

CONCLUSIONS

The experimental program, which was conducted to investigate the icing potential of the external tank of the space shuttle, satisfied the objectives which had been established. After completion of an experiment, data were promptly distributed to investigators evaluating computer models of ET icing and other analysts. In addition, a large volume of observational information was collected and is contained in this report. Data were collected to address condensation and condensation rundown rates on a SOFI covered surface. The rivulet formation and rundown processes were observed and described. The mass of frost/ice which accreted on the surface of the panel was sampled at the conclusion of each test.

A significant finding, which became evident early in the experimental program, was that computer models based upon the average SOFI thickness predicted panel surface temperatures that were considerably higher than observed. In processes involving phase change, small variations in conditions can have a large impact upon the results. For an assessment of icing, the important values to characterize the SOFI are the minimum thickness and range of thickness. Dense ice formation occurred most readily when a small portion of the total surface area had a temperature below freezing. These minimum thickness points were the eventual locations of the ice formations. Other parts of the surface, having temperatures above the freezing point, served as moisture sources due to vapor condensation.

Measurement of SOFI thickness on the panel indicated that the variation was greater than the specified tolerance of ± 1/4 in. (± 6.35 mm). This relatively large thickness variation has also been observed in photographs of the external tank. A complete mapping of the SOFI thickness on the external tank would be a useful tool in assessing the icing potential for given environmental conditions.

Three ice formation processes were identified:

1. Freezing-in-place of condensed water.

2. Formation of dense ice due to water rundown into areas containing frost.

3. Freezing of migrating water in the form of drops or rivulets.

These processes were accelerated when a significant portion of the surface had a temperature above the freezing point. Frequently, the top of the ice protruded above the SOFI surface. This occurred because the thermal conductivity of ice is more than two orders of magnitude greater than that of SOFI. Ice formation of a size beyond that specified as hazardous to the thermal protective tiles of the orbiter was observed in <u>all</u> tests having liquid water available on the surface. For the warmer sets of conditions, no ice was expected using analyses based upon the average SOFI thickness.

A potential hazard to the orbiter tiles which has not been previously identified could occur during relatively cool and humid ambient conditions as a result of extensive frost formation. Due to the large surface area of the external tank, the avalanche of frost at liftoff could be large enough to be of concern.

Polyethylene glycol was applied to the SOFI surface and tested as an approach to ice suppression. The three compounds tested were basically successful in this capacity except at the thinnest SOFI spots. Serious questions remain, however, concerning the longevity of the coating during high moisture availability conditions.

A forced air flow on the panel was found to be an effective and fast-acting icing control technique. The temperature of the air which produced these results was not extremely high, about 10°C (50°F), and the flow velocity was not high, about 1 m/s (3.3 ft/s). This approach holds enough promise to warrant further development.

APPENDIX A: INSTRUMENTATION

DESCRIPTION OF INSTRUMENTS USED

Data Logger

The Joseph Kaye System 8000 data logger has a modular design, consisting of a control unit that is interfaced with a scanning module which in turn accepts plug-ins. System specifications are given in Table A1. The plug-ins used in our experiments were one Model 821 voltage input module and five Model 8226 Type T thermocouple modules. Each thermocouple plug-in includes a precision ice point reference circuit which matches both the slope and curvature of the type T thermocouple output characteristics, providing a ± 0.06°C reference accuracy. The input terminals are of matching material.

Table A1. Kaye 8000 system specifications.

Number of channels	59
Scan rate	1 reading every 2 s
Stability with time	20 mV, 200 mV and 2 V ranges 30 days +1 μv, ±0.005% full scale ±0.01% reading Thermocouple type T 30 days, ±0.1°C ±0.01% reading
Stability with ambient temperature	±0.8°C ±0.02% reading 20 mV, 200 mV and 2 V range ±0.1 μv/°C ± 0.001% reading/°C Thermocouple type T ±0.01°C/°C ±0.001% reading/°C
Input impedance	20 mV, 200 mV, 2 V and thermocouple ranges Greater than 1000 MΩ
Operating temperature	20°F-110°F
Power	105 Vac to 125 Vac 50/60 Hz
Thermocouple conformity	The conversion of thermocouple voltage to temperature units is done by a digital computing circuit. The maximum difference between that conversion and NBS thermocouple tables is 0.06°C between -155°C and 425°C

The main control unit controls all scanning and output functions: a 4-1/2 digit dual slope integrating digital volt meter (DVM), a digital clock and a 21-column line printer. It processes the information obtained from the scanning module which scans each plug-in module. Each plug-in has two internal codes: a range code to select the proper voltage range in the DVM and a function to activate the required digital conversion circuit.

The system operates as follows. The control module initiates a scan command to the scanning module, which then activates each plug-in in sequence, scanning each channel within the plug-in. The plug-in's internal codes indicate to the control unit which condition circuit to use to process the signals from the 10 channels within the plug-in. The signal is processed in the control unit and sent as output on the DVM, the display, the printer and the recorder. The control unit was set up in our experiments to both print and record the condition signals from each channel once every 5 min. Each channel was sampled for 2 s with every scan and a total of 50 channels were scanned.

Infrared Pyrometer

We measured cryopanel surface temperature remotely using an Omega Scope Model 2000S hand-held, infrared pyrometer. The Omega scope 2000 has an operating range of -30°C to 1100°C.

To operate the Omega scope four controls must be set: "use stored data," "display select," "scale select" and "emissivity." The use stored data mode enables the operator to choose between individual independent measurements or accumulating the data from successive measurements until the memory of the microprocessor is clear. On all recorded measurements the use stored data option was set to "No." The display select setting allows the operator to choose a function setting from individual temperature, average temperature, maximum, and minimum temperature and difference between maximum and minimum temperature. All temperature measurements were made using the average temperature setting. The scale select switch is used by the operator to select either Fahrenheit, Celsius or emissivity. The emissivity setting can be changed by setting the scale select to emissivity and pressing the up or down arrow. The emissivity of SOFI reported to us, 0.86, was used in tests 1 to 5. Comparisons between pyrometer and thermocouple temperature measurements revealed that the emissivity of dry SOFI in the laboratory condition is closer to 0.92 and this value was used subsequently. These same comparisons revealed that the emissivity of the SOFI surface changed when the surface was covered with water, ice or frost. This point is discussed further in the Instrument Calibration section below.

The Omega scope 2000S infrared pyrometer combines a thermopile detector with a precise 8-to 14-μm spectral filter for low temperature measurements. The infrared radiation enters the front of the pyrometer (Fig. A1) and is focused by a mirror system onto a thermopile detector which generates a voltage proportional to the amount of infrared energy received. The spectral filter is an integral part of the detector. The output of the detector is amplified and then converted to a digital signal by an analog to digital converter.

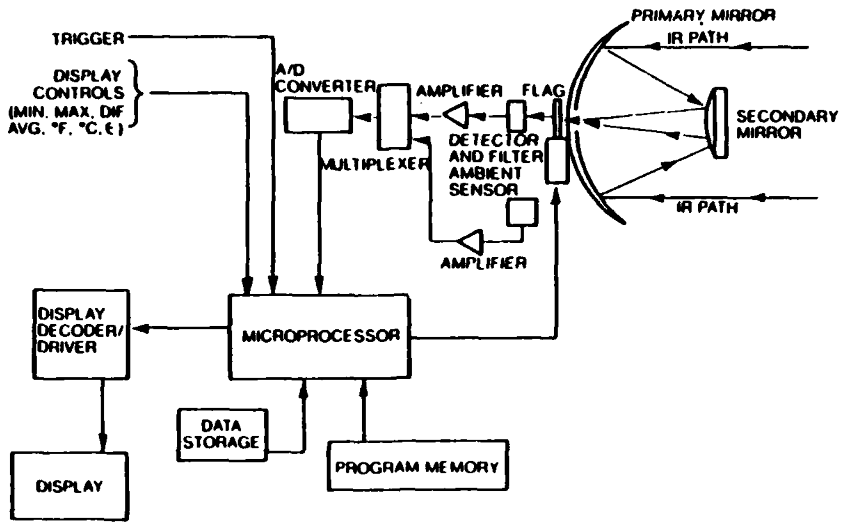


Figure A1. Schematic diagram of components and orientation of IR pyrometer.

In a measurement sequence, when the trigger is pulled, a flag is moved in front of the detector. The detector measures the temperature of the flag as a reference and this information is stored in memory. An ambient sensor measures the temperature of the environment. This information is also stored in memory for use in calculation of the surface temperature.

The microprocessor uses the flag temperature data, incoming infrared energy data, ambient sensor data and detector calibration characteristics stored in memory to convert measured infrared energy to degrees Fahrenheit or degrees Celsius. The result is displayed on the liquid crystal display.

The instrument will take four measurements per second as long as the trigger is depressed. A new flag reference temperature is taken every 120 temperature measurements.

The manufacturer's specifications state that the NBS traceable accuracy of the system is ± 1% of the reading for an ambient temperature of 20°C ± 5°C, with emissivity set at 1.0 when the target fills a 4° field of view. The ambient temperature operating range of the pyrometer is 0°C to 50°C. The repeatability of the system is 0.5% of the reading at constant temperature and a target filling a 2° field of view.

Field of view is defined as a volume in space defined by a cone extended from the focal point of the instrument. This system is designed to collect 90% of the infrared energy within a 2° cone and 99% within a 4° cone. To make accurate absolute temperature measurements, the target must fill a plane through the 4° field of view. Otherwise the instrument will receive infrared energy from the area around the target, resulting in a less accurate measurement. The spot size is the diameter of a circle formed by a cross section of the field of view. The spot size at the target location is determined by multiplying the distance-to-target plane by the ratio 1/30 for a 2° field of view and 1/15 for a 4° field of view. The measurements made during our experiments were from a distance of 6 to 7

m from the panel. This corresponds to spot sizes 0.20 m and 0.23 m in diameter for a 2° field of view, and 0.40 m and 0.47 m in diameter for a 4° field of view. Therefore, our measurements represent 90%-99% of the infrared energy from a surface area on the panel of between 0.0314 m^2 and 0.171 m^2. This is an important consideration when comparing these measurements with the point surface temperature measurements made by the thermocouples.

Thermocouples

Forty type T (copper-constantan) thermocouples were fabricated from 28-gauge and 30-gauge thermocouple wire. These thermocouples were mated to shielded thermocouple cable using miniature and subminiature type T thermocouple connectors. The shielded cables were connected to the Kaye 8000 data logging system via model 8226 plug-ins.

Sixteen 30-gauge thermocouples were mounted on the SOFI surface at numbered locations specified by the Martin Marietta Corporation. Each thermocouple lead was run vertically from either the top or bottom of the cryopanel. The thermocouple wire was tacked down to the SOFI surface at 0.30-m intervals with RTV silicone, and also tacked approximately 50 mm from the thermocouple junction. The thermocouple junction was then pressed into contact with the SOFI surface and RTV was applied to hold it in place. After the first experiment, it was suspected that the junctions on the SOFI surface were sensing too much of the boundary layer temperature because they were not in good thermal contact with the surface. Each junction was lifted off the surface and a coating of thermal conducting grease was spread over the SOFI surface. The thermocouple junction was then pressed back down onto the surface and embedded in the thermal conducting grease. A new RTV tacking was applied approximately 50 mm from the thermocouple junction to hold the junction in contact with the greased surface. After the RTV had cured again, more conductive grease was applied over the thermocouple to ensure good thermal contact, and each location was sprayed with clear lacquer paint to encapsulate the contact point.

Four 28-gauge thermocouples were installed 0.46 m from the top and bottom of the panel, in contact with the aluminum panel. Three of these were encapsulated in thermal conductive grease and clear lacquer paint as the SOFI surface thermocouples had been. One was left in physical contact with the aluminum surface, with no grease applied, for comparison.

Ten 28-gauge type T thermocouples were mounted on a 0.46- x 4.6-m aluminum panel with RTV. The thermocouple junctions were placed 0.46 m from each other, starting with the first one 0.23 m from the top. Each thermocouple was located on the centerline of this panel. After all thermocouples were mounted, the entire panel was painted with flat white spray lacquer. This emissivity panel was then hung vertically approximately 0.6 m to the side of the cryopanel and was used in the tests to provide a reference data set for the pyrometer measurements.

The remaining 28-gauge type T thermocouples were placed on the ceiling, the floor, and on each of the walls of the test chamber approximately 1.5 m off the floor.

Three ultra-fine type T 36-gauge thermocouples were placed on the SOFI surface. Two were positioned on side B, one at a cold point on this side

and the other at a warm point. The third was placed on side A at a cold point accessible from the floor. These cold and warm points were located using an infrared camera. Two more type T thermocouples were used as reference points. One was immersed in a 0°C reference bath and the other in a dewar flask of liquid nitrogen.

Dew cell/ambient temperature sensor

The dew point and ambient temperature at 1 and 4 m from the ground were continuously monitored using two General Eastern 1200 MPS systems. The systems were identical except for calibration constants and settings for the platinum resistance thermometers (PRT) in each unit. The systems consist of the following components: a model 700 aspirated enclosure, a model 1211 MP meteorological dew point sensor, a 50-ft (15.2-m) aspirator cable, and a model 1200 EP hygrometer control unit. The system uses a two-stage dew point sensor employing a National Bureau of Standards (NBS) traceable PRT for mirror sensing and a similar NBS traceable PRT in a silver-vacuum-walled thermal shield for ambient temperature sensing. Temperature and dew point are measured with stated accuracies of ± 0.2°C over the range of -50°C to +50°C.

The system consists of three electrically independent subsystems: a system to automatically control the mirror surface at the prevailing dew point, and two essentially identical systems for monitoring the temperature of the mirror and the ambient temperature. The dew point hygrometer is an optical hygrometer consisting of light-emitting diodes, photodetector, mirror and PRT, and PRT in the thermal shield all inside an aspirated enclosure. A fan in the enclosure draws a continuous sample of air across the mirror. The dew/frost mirror is cooled by a Peltier type thermoelectric cooler. The mirror temperature is measured by a PRT embedded in the mirror. The control circuits, bridge measurements and current converting circuits are in the hygrometer control unit.

The unit operates as follows. The condensation mirror is illuminated with a high intensity solid-state light-emitting diode. A photodetector is configured so as to monitor the specular component of the reflected light from the mirror. A separate light-emitting diode and photodetector combination are used to compensate for any thermally induced changes in the optical components. The photodetectors are arranged in an electrical bridge circuit such that the bridge output current is large whenever the mirror is dry. The bridge output is amplified and used to control the direct current to the Peltier cooler, causing the mirror to cool toward the dew point. As dew begins to form, the specular light is reduced. This causes the bridge output to reduce towards the balance point, thereby reducing the current to the Peltier cooler. A rate feedback loop within the amplifier ensures critical response. The system quickly stabilizes to maintain a uniform layer of dew or frost on the mirror surface. The precision thermometer embedded in the mirror monitors the dew point temperature.

The PRT resistance is measured by a three-wire bridge completion configuration. The differential output voltage of this bridge is amplified by a high-gain operational amplifier. Another operational amplifier sums a small portion of the analog output voltage of the first amplifier with a precision voltage reference, and its output supplies current to the bridge. This feedback serves to eliminate nonlinearities associated with differen-

tial voltage measurements in the bridge and the coefficient of the second order term of the PRT characteristic equation. The output voltage of this circuit drives the track and hold amplifier, which in turn drives the voltage and output currents that can be used to record the temperature of the hygrometer and ambient temperature sensor. Each control unit contains two such bridge circuits along with the hygrometer control circuit. The deviation from linearity in the recorded temperature is less than 0.02°C over the -50°C to 100°C range. The scale factor is 100 mV/°C.

Assmann Psychrometer

We measured the saturation temperature and ambient air temperature simultaneously by means of a Cassella Assmann psychrometer. The Assmann psychrometer is an aspirating psychrometer in which the two thermometers, wet bulb and dry bulb, are stationary in ventilated tubes. The air flow is provided by means of a spring-driven fan. The spring when completely wound provides an air flow over both thermometer bulbs for 10 min. Each thermometer is graduated in 1°F increments. The mercury bulbs themselves are individually enclosed in stainless steel heat shields. The wet bulb has a muslin covering which is saturated with distilled water before each measurement. The procedure followed in taking the readings from this instrument was as specified in ASTM Standard E337.

Dissolved Oxygen Meter

The oxygen level within the building enclosing the test chamber and LN_2 supply tank was monitored to detect possible oxygen depletion by an accidental release of a large amount of nitrogen, using a Beckman Model 735 dissolved oxygen analyzer. The oxygen probe contains a gold cathode and a silver anode, separated by PVC casting and electrically connected by a potassium chloride electrolyte. A constant potential is applied across the two electrodes and a gas-permeable Teflon membrane fits firmly against the gold cathode and separates the electrodes from the sample. Oxygen diffuses through the membrane from the sample and is reduced at the gold cathode. The reaction allows an electric current to flow from anode to cathode that is proportional to the partial pressure of oxygen in the sample.

The normal dissolved oxygen reading of the probe was 48 mV. The readout was monitored during the tests as an indicator as to whether there was sufficient oxygen in the enclosure. In addition, when the building was closed between experiments, a parallel output line was monitored using a DVM at the door to insure that there was sufficient oxygen to enter the building and set up the next experiment. The only time the meter dropped significantly was while liquid nitrogen was being delivered and that was traced to the exhaust from the delivery truck displacing the oxygen in the vicinity of the probe.

Infrared Scanning Camera

An Inframetrics Model 525 infrared camera was used in the first three tests to observe the panel surface temperture distribution. The camera sensed infrared energy in the 8- to 12-μm wavelength range which is comparable to the range of the IR pyrometer. However, this camera is not capable of measuring absolute temperature. Use of the IR camera was discontinued after sufficient data on temperature distribution were obtained.

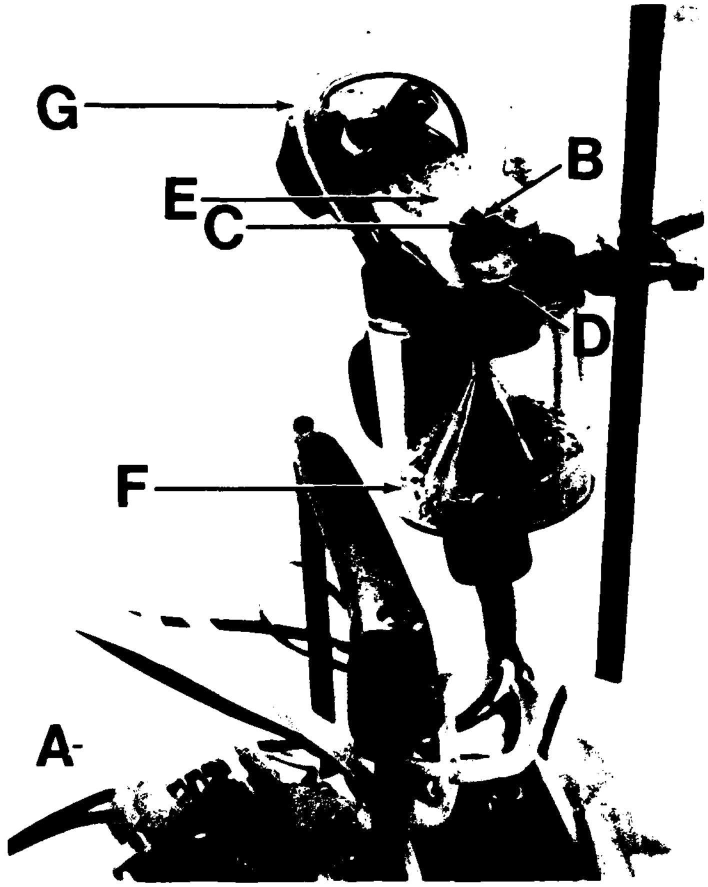


Figure A2. Photograph of frost and ice collector: compressor (A) recirculates air through the collector, the heating element of a soldering iron (B) heats the air, nozzle (C) directs the air against the panel, meltwater is sucked through orifice (D) and Lucite cylinder (E), collected by desiccant (F), and dried air is returned to the compressor through return line (G).

Frost and ice collector

In order to measure the amount of ice and frost grown on the cryopanel a "hot air frost and ice collector" (Fig. A2) was developed. The collector uses recirculating hot air generated by a compressor (A) and a small hot air gun using the heating element of a soldering iron (B). Hot air blown from a nozzle (C) melts ice and frost grown on the SOFI surface. The water is then sucked through the orifice (D) surrounded by a lucite cylinder (E) having a diameter of 27 mm. The moisture sucked from the orifice is collected by desiccant (F) and dried air is returned to the pump through a return line (G). Excess water not collected by the orifice is blotted using #41 filter paper. The total weight of desiccant and filter paper kept in the collecting bottle is measured to 0.01 g by a balance before and after collection.

Since the collector opening (5.726 cm^2) does not cover a sufficient area for a representative sample, collection was usually made on 100 cm^2 of fixed area by moving the collector. Although all efforts were made to dry the surface, water trapped in the cavities between foam cells was almost impossible to collect. Also dripping from the upper surface and condensation on the still cold sample surface were unavoidable.

In order to calibrate the collection efficiency, a 10-x10-cm plug was cut near the middle of a smaller (30-x45-cm^2) SOFI panel. After weighing, the plug was replaced in the original position and frost was grown on the surface by supplying water vapor to the surface in a coldroom. After a sufficient amount of frost was grown on the surface, the plug was removed and weighed to determine the amount of frost. Then the plug was replaced in the original position and the "hot air frost and ice collector" used to collect the frost on the plug. Before and after the frost collection, the plug and collecting bottle with blotting filter paper were weighed and from the difference in weight the collection efficiency was calculated. After several tries, the collection efficiency stabilized at about 80%.

Liquid nitrogen level detector

Because of space limitations and extremely low temperatures, a simple electronic detector was devised to sense liquid nitrogen level to determine when the cryopanel had finished filling. The sensor is a low resistance thermistor with a heater wrapped on it. The thermistor is kept warm until liquid nitrogen directly contacts the sensor. Since heat removal by boiling of liquid nitrogen is far greater than cooling by nitrogen gas, an abrupt temperature drop and a corresponding abrupt increase in resistance of the thermistor indicates that it is immersed in liquid. The thermistor constitutes part of a timing circuit consisting of C_1, R_1, R_2 and an integrated circuit timer 555 as shown in Figure A3. The oscillation frequency of the LED was adjusted to about 4 Hz when the sensor was not immersed in liquid nitrogen. The frequency drops to less than 1/10 Hz when the sensor is halfway immersed and the LED stops flashing completely when the sensor is totally immersed in the liquid nitrogen. The device clearly indicates the level of LN_2 in the panel.

Panel pressure indicator

To prevent excess pressure in the panel, internal pressure was monitored by a water manometer having a port at the same location as the LN_2 level sensor. It was found during the tests that the pressure indicator served as an excellent precursor for the level indicator. The overpressure of the panel due to the boil-off of LN_2 was kept at about 50 cm of water during the filling process. Near the end of the filling, the pressure abruptly dropped and started to oscillate, indicating that the panel was almost full. The supply of LN_2 was then cut to decrease the overpressure to about 2 cm of water, which maintained the liquid level so that the panel remained full throughout the test. The combination of the level indicator and the pressure indicator was found to be an excellent tool for the test operation.

Photography

Photographs of various panel conditions and frost/ice crystals were

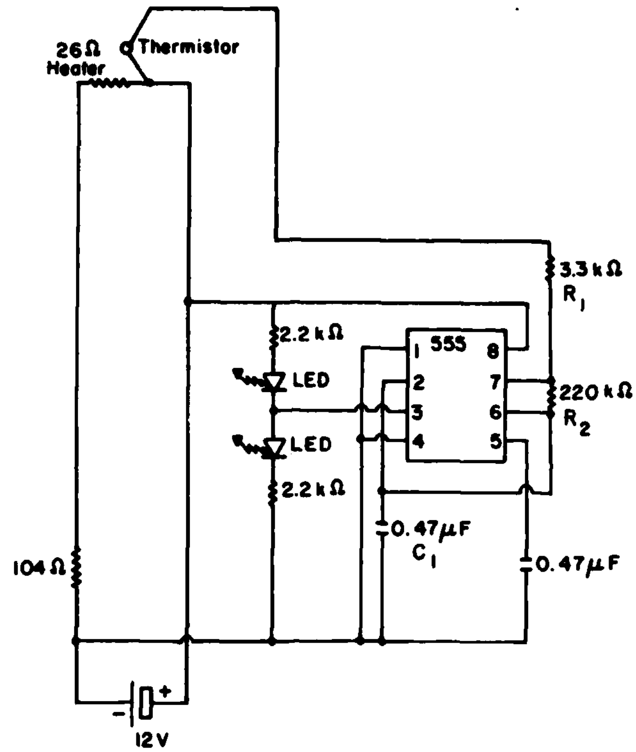
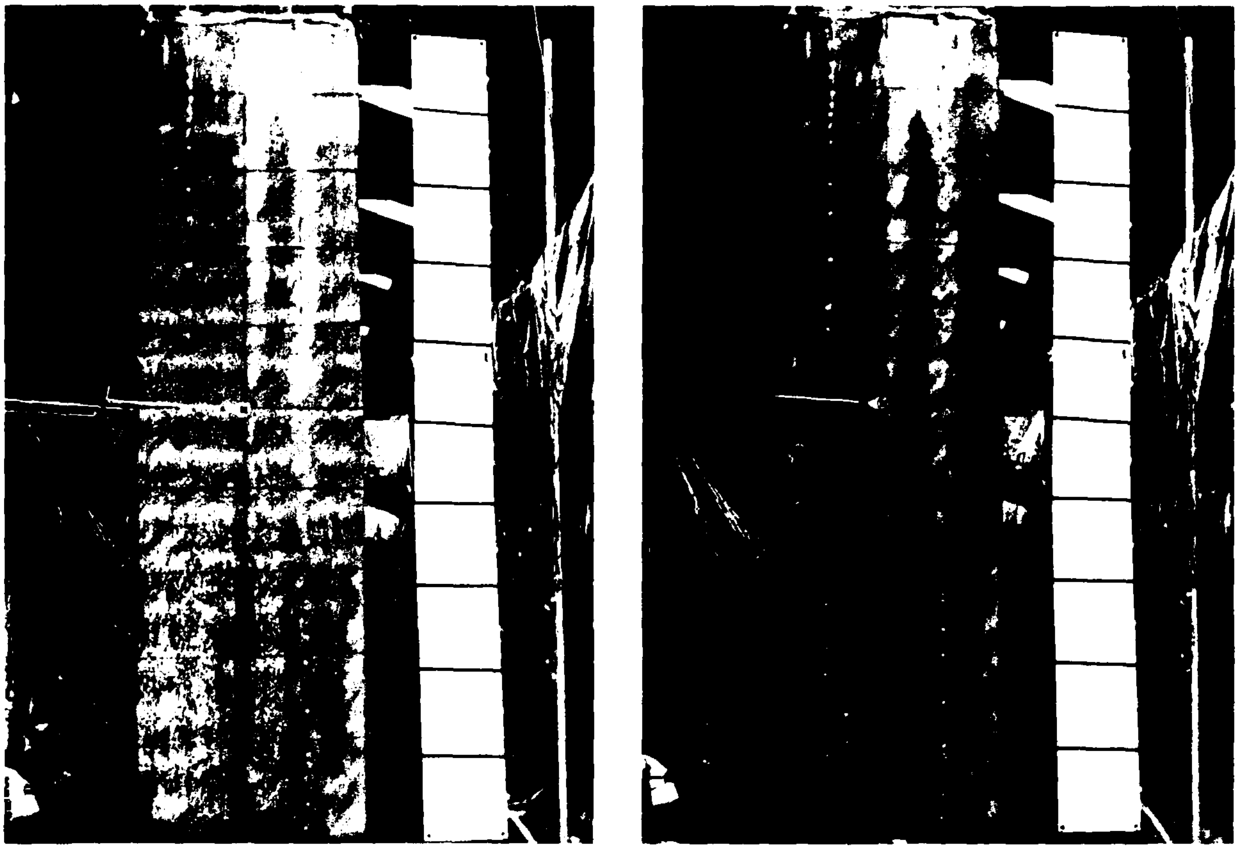


Figure A3. Liquid nitrogen level detector circuit diagram.

made using a 35-mm SLR camera. In an attempt to distinguish glaze ice from water running down the panel a cross polarizer method was used. A polarizing filter having a vertical E-vector was attached to an electronic flash while an adjustable analyzing filter was mounted on the camera lens. In the parallel position of the polarizer and analyzer it was expected that all light reflected from the panel would pass through the analyzer. In the crossed position only light reflected from optically anisotropic crystals such as ice was expected to pass through the analyzer.

By comparing the photographs taken in crossed and parallel polarizer positions, it was hoped that ice/frost and water on the surface could be differentiated. The reflection from water visible in the parallel polarized photograph was absent in the crossed polarized photograph (Fig. A4). At the same time, the whiteness of the frost crystals stood out when the crossed polarizers were used. Little difference was noted, however, between the reflections from ice and dry SOFI. Since SOFI does not have a crystalline structure, no difference was expected between photographs taken using the parallel and crossed polarizer positions. Significant differences were expected between reflections from an ice-covered surface and wet or dry SOFI, but the results were disappointing. The reflection from ice was distinguishable under favorable conditions, but the difference between photographs taken in parallel and crossed polarizer positions did not match the contrast obtained with frost. It was unclear why this occurred since double refraction within the ice was expected to produce good contrast. One potential problem is the imprecision associated with the manual alignment of the analyzer, which is very sensitive near the crossed position. Also, manual comparison of parallel and crossed polarizer photographs was tedious and print quality and other factors tended to degrade contrast.



a. Photograph of side A of the panel taken with the analyzer parallel to the polarizer. Reflections from the wet surface glitter and a slight contrast under the glitter may indicate ice. When the photograph was taken the surface was completely covered by frost, ice or wet ice.

b. Same photograph except that the polarizer and analyzer are crossed. The glitter is almost completely eliminated and the pattern of frost growth is more pronounced.

Figure A4. Example of use of polarizing filter.

A laser beam scanning system coupled with a computer-controlled graphic display may provide enhancement of the contrast. Such a system is a candidate for remote sensing of ice, but further basic studies need to be conducted.

Heat lamp array and current control

The system that was used to simulate incident solar radiation consisted of four infrared lamps in a vertical array 0.457 m (18 in.) apart. The first lamp was located 0.457 m (18 in.) from the top of the panel. The resulting array was 1.83 m (6 ft) long. A calibration of this configuration was performed by locating the lamp array approximately 1 m from the SOFI surface, and plugging each two-lamp segment into its respective metered autotransformer. After setting the voltage at 30 V, the amperage was measured through each lamp segment and the surface temperature of the

Table A2. Lamp array calibration data.

	$Volt_B$	$Amps_B$	$Volt_T$	$Amps_T$	T °F
	30	2.25	30	2.7	71°
	46	2.7	46	3.6	73
	60	3.1	60	3.9	76
	75	3.4	75	4.4	78
	90	3.6	90	4.8	81
	105	4.0	105	5.2	83
I	120	4.5	120	5.7	86
	30	2.25	30	2.7	71
	45	2.7	45	3.35	75
	60	3.1	60	3.9	78
	75	3.4	75	4.4	82
	90	3.7	90	4.8	88
	105	4.1	105	5.2	91
II	120	4.7	120	5.7	97

Volt B, Amp B indicates lamp segment on bottom.

Volt T, Amp T indicates lamp segment on top.

Data Set I was with lamp array 1 m from SOFI surface and at 67°F starting temp.

Data Set II was with lamp array 0.75 m from panel and temp at start = 68°F.

SOFI was recorded. The voltage was then increased in 15-V steps (Table A2). See the experimental test summaries for a discussion of the array usage and effects.

Rundown drip hose

Rundown simulation was accomplished by delivering water to the top of the panel through a hose connected to a porous rubber drip hose. A Y-connection at the top of the panel provided a separate section of drip hose for sides A and B. A plastic cone nozzle with a small hole was inserted just before the drip hose to control the rate of flow to it. The rate of flow through the nozzle was measured by turning on the water supply and measuring the volume of water discharged into a graduated cylinder over a 1-hour period. The flow rate can be changed by modifying the orifice size.

Radiometer

Two net radiometers were located on either side of the panel at the midpoint of the panel. These radiometers consist of two sensors per radiometer. The sensors are back to back inside two joined hemispheres; the

sensor which faced the panel sensed the radiation from the panel, whereas the sensor which faced away from the panel sensed the radiation to the panel from the environment. The radiometers were CSIRO net radiometers type CN1 manufactured by Middleton and Co. Pty. Ltd., Melbourne, Australia. The calibrated sensitivity at 20°C is specified as shortwave radiation 0.438 $mV/mW\ cm^{-2}$ and longwave radiation 0.43 $mV/mW\ cm^{-2}$ with an internal resistance of 78 Ω.

Other instrumentation

Anemometer: A Biram-Palter type anemometer manufactured by Taylor Co. was used to measure air flow velocity. The anemometer has an overall diameter of 105 mm with a 52-mm dial face in the center. The dial face is graduated in increments of ft/min and has separate 100- and 1000-ft/min dials on the face.

Hot film anemometer: The hot film anemometer used in making boundary layer velocity measurements was a Thermo-Systems Inc. (TSI) model 1050. The amount of electrical energy dissipated in the heated velocity probe is a measure of the cooling effect of the fluid flowing past the probe. The type of probe used was a quartz-coated hot film sensor which was connected to the anemometer with a triaxial cable. The cooling effect of the fluid passing the sensor depends on both the mass flow rate and the temperature difference between the sensor and the fluid. The temperature of the sensor was much higher than the fluid temperature, making the signal insensitive to temperature but very sensitive to velocity. Details of anemometer calibration and operation can be found in the TSI publication, "General System Information for 1050 Series Anemometry."

Metered autotransformers: The General Radio type W5MT3A autotransformers used had a voltmeter and ampmeter graduated in 2-volt and 0.1-amp increments, respectively. These autotransformers were used to control and measure the power inputs to the infrared lamp array and the fan used to simulate solar radiation and wind input to the SOFI panel.

INSTRUMENT CALIBRATION

Data Logger Calibration

Calibration of the Kaye 8000 data logger consisted of setting the zero voltage on the data logger's digital voltmeter and then adjusting the full scale in the 20-mV range. This was done by plugging in a manufacturer-supplied calibration card into the plug-in slot #5. The sample rate on the DVM was set to 2 seconds and a scan was initiated with all other plug-ins turned off. The calibration card switches were set to the 20-mV range and inputs shorted to check the zero voltage. The DVM display was monitored and the zero setting trim pot of the DVM was adjusted until the display read 0.000 mV. The next step was to connect a precision constant voltage source to the terminal of the calibration card; a negative 20.00 mV was applied to these terminals. A scan was initiated again and the 20-mV trim pot was adjusted as needed until the DVM display read -20.000 mV ± 0.005 mV. The procedure was repeated for a +20.00-mV bias, adjusting the +20.0-mV trim pot as needed.

Next the range switches on the calibration card were set for type T thermocouple and the terminal shorted. A scan was initiated and the display monitor was checked to ensure that it read 0.0°C. The calibration card was then removed and the #5 plug-in was reinserted.

The next step was to ensure that the zero point offset in each type T thermocouple plug-in was properly set. A thermocouple which was immersed in a Joseph Kaye ice point reference standard was attached to the first channel of a plug-in module. A scan was initiated and the zero point trim pot in the individual plug-in was adjusted as needed until the display read 0.0°C. This was repeated for each successive type T plug-in. Upon completion of the calibration the scan interval was set to 5 min, sampling rate to 2 s and the paper tape recorder was turned on.

Dew Cell Hygrometer Calibration

Dr. E. Andreas of CRREL checked the calibration of each hygrometer unit once a week. He also inspected the mirror and temperature probe at that time and cleaned them if needed. The instrument was calibrated using a precision decade resistance box supplied by the manufacturer. The precision of the set resistance is 0.02% nominal. The control unit was disconnected from the probe and connected to the decade box by a connector cable manufactured for calibration purposes. A manufacturer's specified resistance for each calibration point was dialed into the decade box. The output voltage was measured on a DVM and the high, low, or zero point trim pots were adjusted as needed to bring the bridge circuits into tolerance. The calibration points specified were 50°C, 0°C and -50°C. See Table A3 for corresponding resistance settings and Table A4 for calibration data.

Thermocouple calibration

The type T thermocouple and two thermometers were immersed in a chilled oil bath contained in a stainless steel Dewar flask. The thermometers were an ASTM type 33C 51-mm immersion mercury-in-glass thermometer and a Thomas Scientific total immersion toluol in glass thermometer. The oil used was Dow Corning 200 silicone fluid. The oil in a separate container was left to chill in a -30°C coldroom overnight. The empty Dewar flask was also left overnight in the same coldroom. The oil was poured into the Dewar flask and a resistance heater was inserted. The thermocouples were bundled together around the two thermometer bulbs, and a stirrer was inserted.

The thermocouples were connected to a calibrated data logger. The resistance heater was plugged into a Variac. The variac was turned on and the oil bath was stirred continuously. The thermometers were read and a simultaneous scan was taken every 5 min on the data logger. This procedure was continued through the range of -10°C to 10°C. Plots of thermometer-thermocouple temperature readings are given in Appendix C.

Pyrometer calibration

A calibration of the pyrometer for various surface conditions such as dry, wet, frosted and ice-covered SOFI was done. The SOFI used in this calibration was obtained from a smaller cryopanel used in preliminary tests, which was cut into a disc 15 cm (6 in.) in diameter. A round alumi-

Table A3. Manufacturer specified resistance setting, dew cell hygrometer.

	T_{amb}			T_{dew}		
	50°C (Ω)	0°C (Ω)	-50°C (Ω)	50°C (Ω)	0°C (Ω)	-50°C (Ω)
Unit 1 (1 m)	114.44	100.08	80.48	119.52	100.11	80.42
Unit 3 (4 m)	119.46	100.10	80.57	119.31	99.81	80.23

Table A4. Record of calibration checks and cleaning, dew cell hygrometer.

Date	Unit (m)	T ambient 50°C (Ω)	T ambient 0°C (Ω)	T ambient -50°C (Ω)	T dew point 50°C (Ω)	T dew point 0°C (Ω)	T dew point -50°C (Ω)
3/11/82	1	49.99	-0.00	-49.99	50.05	0.011	-50.06
	4	50.00	0.010	-50.00	50.00	0.010	-50.00
3/19/82	1	50.05	0.192	-49.68	49.93	-.081	-50.12
	4	50.19	-0.22	-49.74	49.05	-.11	-50.11
3/26/82	1	50.05	-0.028	-50.12	50.05	.033	-50.00
	4	50.25	0.177	-49.88	49.91	.067	-50.10
4/5/82	1	49.95	-0.064	-50.09	50.02	.046	-49.94
	4	49.96	0.019	-50.04	50.00	.034	-50.01
4/9/82	1	50.03	0.133	-49.79	49.79	-.023	-50.05
	4	49.88	-0.298	-50.34	49.75	-.185	-50.17
4/16/82	1	50.00	-0.86	-50.16	50.00	-.020	-50.04
	4	50.23	0.216	-49.89	50.16	.136	-49.94
4/23/82*	1	50.03	0.146	-49.76	50.01	.004	-50.02
	4	50.15	0.061	-49.97	49.73	-.265	-50.23
4/30/82	1	49.90	-0.116	-50.14	49.94	-.067	-50.09
	4	49.97	0.092	-50.15	49.88	-.103	-50.10
5/7/82	1	50.01	-0.003	-50.05	50.00	-.016	-50.04
	4	50.33	0.141	-50.04	49.72	-.258	-50.26
5/13/82	1	50.03	-0.006	-50.07	50.04	.038	-50.01
	4	50.12	-0.031	-50.18	50.21	.197	-49.82
5/20/82*	1	50.00	0.028	-49.93	49.91	-.082	-50.08
	4	50.37	0.143	-49.98	49.98	-.017	-50.03
5/27/82*	1	49.96	0.000	-49.95	50.01	.005	-50.00
	4	50.14	0.020	-50.06	49.93	-.055	-50.06
6/3/82	1	49.95	-0.071	-50.09	50.02	.021	-49.97
	4	49.99	0.044	-49.93	50.13	.124	-49.91
6/10/82	1	50.03	0.015	-49.48	49.98	-.023	-50.03
	4	49.92	-0.085	-50.15	49.96	-.039	-50.04
6/17/82	1	50.03	0.039	-49.95	49.95	-.033	-49.82
	4	50.08	-0.064	-50.13	49.92	-.060	-50.06

All readings were in mV to an accuracy of ±.001 mV. The initial settings were set up as 0°C = .000 mV ± .01 mV, + 50°C = 50 mV ± .05 mV, -50°C = -50.00 mV ± .05 mV

* Indicates sensors and mirror were cleaned

Table A5. Regression constants for pyrometer readout to surface temperature conversion.

$$T_s = A_o + A_1 T_p + A_2 (T_p)^2$$

Surface Condition	Emissivity	A_o	A_1	A_2
SOFI Dry	0.86	5.216098 E-0	6.731222 E-1	-9.861062 E-4
	0.92	3.405229 E-0	7.685635 E-1	-1.101539 E-3
	0.99	2.698538 E-0	9.530132 E-1	1.282687 E-4
SOFI Frost	0.86	5.048001 E-0	6.574218 E-1	-1.848656 E-3
	0.92	4.296132 E-0	7.972762 E-1	-2.267197 E-4
	0.99	2.593033 E-0	9.572755 E-1	1.927851 E-3
SOFI Ice	0.86	5.436271 E-0	4.901986 E-1	-4.560984 E-3
	0.92	4.169392 E-0	5.575387 E-1	-4.962128 E-3
	0.99	4.426110 E-0	8.616689 E-1	-2.312349 E-3
SOFI Wet	0.86	6.659087 E-0	7.971090 E-1	-3.187563 E-3
	0.92	5.613861 E-0	8.441331 E-1	-3.498795 E-3
	0.99	3.361930 E-0	1.079246 E-0	-1.100055 E-2
Emissivity Panel Wet and Dry	0.86	5.023990 E-0	8.063926 E-1	-8.978424 E-4
	0.92	3.485479 E-0	8.330519 E-1	8.453088 E-5
	0.99	1.219802 E-0	9.649695 E-1	-1.419050 E-3

num disc having the same diameter was painted with a flat white spray paint like that used on the emissivity panel. A Chromel-Alumel thermocouple was glued in the center of the surface of each disc. Surface temperature was also measured using a Keithlen Digital thermometer model 870.

The calibration procedure was as follows. The SOFI disc was lowered slowly into a large mouth Dewar vessel partially filled with liquid nitrogen until a desired temperature measured by the thermocouple was reached and had stabilized. The surface temperature was measured with the pyrometer located 60 cm above the SOFI disc at emissivity settings of 0.86, 0.92, and 0.99. Next, a lower temperature was established by further lowering the disc, and the same procedure was followed until the surface temperature fell beyond the range of the pyrometer. A similar process was followed in the reverse direction for the warming-up calibration. Ice and frost were grown on the SOFI surface at separate times. The same process was followed for calibration with each type of surface. When the surface was warmed above 0°C and the frost or ice melted, a wet surface calibration was done. The same procedure was followed for the emissivity panel. From the pyrometer/thermocouple readings, a quadratic polynomial regression was determined. The regression coefficients are presented in Table A5 as a function of surface conditions and the pyrometer emissivity setting. In

the regression equation, T_p is the surface temperature measured with the pyrometer and T_s is the actual surface temperature. Small but definite temperature differences were observed in the pyrometer readings for different surface conditions.

Fan calibration

The fan used in forced convection experiments was a 55.9-cm (22-in.) window fan, with a 50.8-cm- (20-in.-) diameter fan opening. The distance from blade tip to hub was 17.8 cm (7 in.), and the hub diameter was 7.6 cm (3.0 in.).

The velocity profile of the fan was measured in the following manner. A Biram-Palter anemometer was placed near the screen of the fan, and located at the outer edge of the opening at 12:00, 3:00, 6:00 and 9:00 o'clock positions. Measurements were made for 1-min intervals. This procedure was repeated for each of the fan speed settings. The anemometer was then placed at 0.5 m and 1 m from the screen on the center line and off the center line at the 3:00 o'clock position for 1-min intervals at each location.

Table A6. Fan calibration data.

Velocity near the fan [m/s]

Fan Speed	amps	12:00	3:00	6:00	9:00
Low	1.25	2.85	2.59	2.99	2.97
Medium	1.60	3.84	3.86	4.35	3.35
High	2.45	4.75	4.08	4.69	4.81

Velocity [m/s]

	0.5 m from fan		1.0 m from fan	
Fan Speed	Centerline	3:00	Centerline	3:00
Low	1.02	1.89	0.85	1.43
Medium	1.60	2.21	1.55	1.92
High	2.42	2.92	1.82	--

Velocity near panel [m/s]

Position

Fan Speed	13	14	17	18	mid-pt
Low	0.76	1.24	0.81	1.27	1.06
Medium	1.12	1.56	1.20	1.35	1.34
High	1.19	1.89	1.[illegible]	1.42	1.43

The flow velocity near the surface of the cryopanel induced by the fan was measured by placing the fan such that the center of the hub was 0.8 m from the edge of the cryopanel and 0.5 m out from the front of the cryopanel, resulting in a 30° angle of incidence. The anemometer was then oriented in the direction of the flow at thermocouple locations 13, 14, 17 and 18 as well as at the mid point among all four of these points, to measure the velocity parallel to the surface. The complete calibration data set is presented in Table A6.

SUPPLIES

A number of supplies were used in the test series. These included:

1. Paper wipes used for water collection in the condensation/retention test, FSN 7920-00-965-1709, manufactured by Cel-Fibe, of Milltown, New Jersey.

2. Clear lacquer used to encapsulate thermocouples on the surface of the cryopanel, FSN 8010-00-067-5436, manufactured by Kerr Chemicals Inc., of Addison, Illinois.

3. Heat-conducting compound used to mount the thermocouples on the cryopanel surface, MS-1699 part no. 107408, manufactured by Honeywell Inc., of Minneapolis, Minnesota.

4. Flat white enamel used to paint the emissivity panel, FSN 8010-00-584-3150, manufactured by Illinois Bronze Paint Co., of Lake Zurich, Illinois.

APPENDIX B: DETAILED DATA SET FROM TEST SERIES

AFSS RUN #1 DAY 2112

Test Time (min)	4 Meter Dewcell Dew point	4 Meter Dewcell Temp	1 Meter Dewcell Dew point	1 Meter Dewcell Temp	Radiometers mW/cm 2 West	Radiometers mW/cm 2 East
0.0	-7.4 C	4.6 C	-7.6 C	4.6 C	0.000	0.230
5.0	-7.5	4.8	-7.8	4.5	0.000	0.230
10.0	-7.8	4.9	-7.9	4.7	0.000	0.000
15.0	-7.7	4.9	-7.9	4.6	0.000	0.000
20.0	-8.0	4.8	-8.3	4.4	0.000	0.000
25.0	-8.1	4.5	-8.2	4.4	0.000	0.230
30.0	-7.9	4.5	-8.2	4.4	0.000	0.230
35.0	-7.9	4.8	-8.1	4.4	0.000	0.460
40.0	-8.2	4.6	-7.9	4.6	0.000	0.920
45.0	-8.1	4.7	-8.2	4.5	0.000	1.379
50.0	-8.2	4.8	-8.2	4.6	0.000	1.859
55.0	-8.2	4.9	-8.2	4.7	0.000	2.529
60.0	-8.0	4.9	-8.1	4.6	0.000	3.448
65.0	-8.3	4.7	-8.6	4.5	0.000	4.599
70.0	-8.6	4.4	-8.7	4.4	0.000	6.897
75.0	-8.6	4.4	-8.7	4.4	0.000	7.356
80.0	-8.6	4.3	-8.7	4.1	0.230	7.356
85.0	-8.5	4.5	-8.8	4.2	0.000	7.356
90.0	-8.3	4.6	-8.5	4.4	0.000	7.356
95.0	-8.5	4.5	-8.7	4.2	0.230	7.126
100.0	-8.6	4.5	-8.7	4.3	0.230	7.356
105.0	-8.7	4.6	-8.8	4.5	0.000	7.356
110.0	-8.3	4.8	-8.6	4.5	0.000	7.356
115.0	-8.3	4.7	-8.5	4.4	0.230	7.356
120.0	-8.5	4.7	-8.6	4.3	0.000	7.356
125.0	-8.5	4.4	-8.8	4.4	0.000	7.356
130.0	-8.6	4.6	-8.8	4.4	0.230	7.356
135.0	-8.3	4.6	-8.6	4.3	0.000	7.356
140.0	-8.5	4.6	-8.6	4.3	0.230	7.356
145.0	-8.4	4.7	-8.7	4.4	0.230	7.356
150.0	-8.3	4.8	-8.7	4.5	0.000	7.356
155.0	-8.5	4.7	-8.6	4.6	0.230	7.356
160.0	-8.4	4.7	-8.7	4.4	0.000	7.586
165.0	-8.5	4.6	-8.7	4.5	0.000	7.586
170.0	-8.5	4.8	-8.7	4.4	0.000	7.356
175.0	-8.6	4.5	-8.8	4.4	0.000	7.356
180.0	-8.6	4.2	-8.8	4.3	0.000	7.356
185.0	-8.8	4.4	-8.7	4.4	0.000	7.356
190.0	-8.8	4.5	-8.9	4.3	0.000	7.356
195.0	-8.9	4.4	-8.9	4.3	0.000	7.356
200.0	-8.9	4.2	-8.9	4.3	0.000	7.586
205.0	-8.8	4.3	-8.9	4.3	0.000	7.356
210.0	-8.6	4.4	-8.8	4.3	0.000	7.126
215.0	-8.7	4.3	-8.7	4.3	0.000	7.356
220.0	-8.6	4.5	-8.7	4.4	0.000	7.356
225.0	-8.5	4.4	-8.8	4.4	0.000	7.356
230.0	-8.5	4.7	-8.5	4.4	0.000	7.356
235.0	-8.4	4.7	-8.6	4.4	0.000	7.126
240.0	-8.5	4.5	-8.7	4.5	0.000	7.356
245.0	-8.7	4.7	-8.9	4.6	-0.230	7.356
250.0	-8.8	4.7	-8.9	4.6	-0.230	7.356
255.0	-8.7	5.0	-8.8	4.7	-0.230	7.356
260.0	-8.7	5.1	-8.5	4.8	0.000	7.356
265.0	-8.6	5.2	-8.5	4.8	0.000	7.356
270.0	-8.7	5.1	-8.6	4.8	0.000	6.897
275.0	-8.7	5.1	-8.5	4.9	0.000	7.356
280.0	-8.6	5.3	-8.5	4.9	0.000	7.356
285.0	-8.6	5.3	-8.4	5.1	0.000	7.356
290.0	-8.7	5.4	-8.5	5.2	0.000	7.356

AFSS RUN #1 DAY 2112

Test Time (min)	Ceiling East	Ceiling West	Floor East	Floor West	Plastic Walls N	Plastic Walls S	Plastic Walls E	Plastic Walls W
0.0	23.0C	13.3C	5.1 C	5.7 C	5.3 C	5.0 C	5.8 C	5.3 C
5.0	20.6	14.8	5.1	5.6	5.3	5.1	6.4	5.2
10.0	13.4	13.6	4.9	5.6	5.2	5.1	6.1	5.2
15.0	10.1	11.2	4.9	5.5	5.1	5.0	5.8	5.2
20.0	10.8	9.9	4.9	5.4	5.0	4.7	5.7	5.0
25.0	12.6	9.9	4.8	5.4	4.8	4.7	5.6	4.9
30.0	11.1	9.9	4.7	5.4	4.8	4.8	5.6	5.1
35.0	10.9	9.6	4.6	5.5	4.9	4.8	5.7	4.9
40.0	9.9	9.3	4.4	5.4	4.8	4.8	5.6	5.1
45.0	9.5	9.1	4.2	5.3	4.8	4.9	5.5	5.1
50.0	9.6	9.2	3.9	5.4	4.8	4.9	5.6	5.1
55.0	9.2	9.2	3.9	5.4	4.9	4.9	5.4	5.1
60.0	9.3	9.0	3.8	5.3	4.9	4.9	5.6	5.1
65.0	8.1	8.5	4.2	5.2	4.7	4.7	5.4	4.8
70.0	8.4	8.3	3.9	5.2	4.6	4.7	5.2	4.8
75.0	8.2	8.2	3.7	5.2	4.5	4.6	5.2	4.8
80.0	7.9	8.1	3.2	4.8	4.3	4.4	5.0	4.7
85.0	8.3	7.9	3.6	4.8	4.5	4.6	5.1	4.8
90.0	9.2	8.1	3.8	4.9	4.6	4.7	5.3	4.9
95.0	9.2	8.1	3.6	4.9	4.5	4.6	5.2	5.1
100.0	9.4	8.2	3.1	4.8	4.6	4.6	5.2	5.8
105.0	9.7	8.7	3.6	4.7	4.7	4.8	5.3	5.3
110.0	9.1	8.4	3.7	4.6	4.7	4.8	5.4	5.1
115.0	9.7	8.7	3.8	4.6	4.8	4.8	5.3	5.1
120.0	8.5	8.4	3.0	4.6	4.7	4.7	5.3	5.1
125.0	8.1	7.9	3.6	4.4	4.6	4.7	5.2	4.9
130.0	8.3	7.8	3.5	4.4	4.6	4.6	5.1	4.9
135.0	8.3	7.7	3.7	4.3	4.6	4.7	5.2	4.8
140.0	10.1	8.1	3.2	4.4	4.6	4.7	5.2	4.9
145.0	10.1	8.8	3.2	4.5	4.6	4.7	5.2	5.0
150.0	8.9	8.5	3.3	4.7	4.7	4.7	5.2	55.0
155.0	8.1	8.2	3.7	4.4	4.6	4.8	5.2	4.9
160.0	8.5	7.9	3.6	4.2	4.6	4.7	5.2	4.9
165.0	9.1	8.1	3.4	4.4	4.6	4.7	5.2	4.9
170.0	8.3	7.9	3.8	4.3	4.6	4.7	5.3	4.9
175.0	8.4	7.7	3.3	4.4	4.5	4.7	5.2	4.8
180.0	7.2	7.4	3.4	4.2	4.4	4.6	5.0	4.8
185.0	8.0	7.4	3.4	4.5	4.4	4.6	5.0	4.8
190.0	6.2	6.9	3.6	4.1	4.4	4.5	5.1	4.7
195.0	6.2	6.6	3.3	4.1	4.3	4.4	5.0	4.6
200.0	6.4	6.6	2.9	4.3	4.3	4.4	4.9	4.6
205.0	6.2	6.6	3.4	4.2	4.3	4.4	5.2	4.7
210.0	5.8	6.2	3.8	4.1	4.3	4.4	5.1	4.7
215.0	6.4	6.3	3.5	4.4	4.3	4.5	4.9	4.7
220.0	6.8	6.7	3.7	4.4	4.4	4.6	4.9	4.7
225.0	6.6	6.9	3.5	4.4	4.4	4.6	5.4	4.8
230.0	6.7	7.0	3.2	4.5	4.5	4.7	5.2	4.8
235.0	6.7	7.1	3.6	4.1	4.5	4.7	5.1	4.9
240.0	7.6	7.0	3.6	4.4	4.5	4.7	5.0	5.0
245.0	9.4	7.6	3.6	4.4	4.6	4.7	5.1	5.1
250.0	9.3	8.8	3.5	4.3	4.7	4.9	5.2	5.2
255.0	7.3	8.4	3.9	4.6	4.8	5.1	5.3	5.3
260.0	7.0	7.9	3.7	4.7	4.9	5.1	5.4	5.2
265.0	7.4	7.7	3.9	4.6	5.0	5.1	5.4	5.3
270.0	7.0	7.5	3.8	4.5	5.1	5.1	5.4	5.3
275.0	10.1	7.7	3.8	4.6	5.1	5.1	5.5	5.4
280.0	10.8	8.9	4.0	4.6	5.2	5.4	5.6	5.6
285.0	8.1	8.6	4.3	4.8	5.3	5.4	5.6	5.6
290.0	7.3	8.1	3.8	4.8	5.3	5.3	5.4	5.6

AFSS RUN #1 DAY 2112

Test Time (min)	Thermocouple Readout by Position SIDE A 1	2	3	4	5	6	7	8
0.0	6.4	6.1	5.8	5.7	6.6	6.1	5.8	5.7
5.0	6.7	6.2	6.1	5.9	6.9	6.3	5.9	5.8
10.0	6.7	6.2	6.0	5.8	6.8	6.2	5.9	5.7
15.0	6.4	6.1	5.7	5.5	6.4	5.9	5.7	5.3
20.0	6.1	5.8	5.6	5.3	6.1	5.6	5.6	5.1
25.0	5.8	5.6	5.2	4.9	5.8	5.4	5.3	4.6
30.0	5.5	5.1	4.3	2.9	5.5	5.0	4.7	2.6
35.0	5.2	4.7	3.2	0.0	5.0	4.6	3.9	-0.2
40.0	4.7	4.0	1.7	-3.3	4.4	3.8	2.8	-3.0
45.0	4.1	3.1	-0.2	-7.2	3.7	2.8	1.2	-6.6
50.0	3.4	2.1	-2.4	-10.3	3.0	1.6	-0.5	-8.3
55.0	2.6	0.8	-4.9	-11.3	2.2	0.1	-2.2	-8.6
60.0	1.1	-1.0	-9.2	-11.3	1.1	-2.0	-5.1	-8.7
65.0	-0.7	-3.4	-13.1	-11.4	-0.1	-4.5	-7.5	-8.9
70.0	-3.1	-7.1	-13.3	-11.3	-1.8	-9.2	-8.1	-8.7
75.0	-5.8	-12.6	-13.3	-11.3	-3.8	-13.2	-8.1	-8.8
80.0	-13.1	-13.5	-12.8	-11.2	-7.3	-13.4	-7.9	-8.7
85.0	-14.4	-13.5	-12.8	-11.1	-8.7	-13.4	-7.7	-8.4
90.0	-13.7	-13.3	-12.3	-10.1	-8.2	-13.1	-7.3	-8.1
95.0	-13.9	-13.1	-12.7	-11.2	-8.7	-13.5	-7.9	-8.8
100.0	-14.0	-13.4	-12.9	-11.4	-9.2	-13.7	-7.9	-8.6
105.0	-14.7	-13.1	-12.7	-10.8	-9.1	-13.7	-8.0	-8.4
110.0	-14.3	-13.1	-12.5	-10.8	-8.2	-13.3	-7.6	-8.2
115.0	-13.3	-12.9	-12.6	-10.8	-8.8	-13.4	-7.6	-8.3
120.0	-13.6	-13.3	-12.5	-11.0	-8.8	-14.0	-7.8	-8.3
125.0	-14.3	-13.4	-12.7	-11.1	-8.9	-13.8	-8.1	-8.7
130.0	-14.7	-13.3	-12.9	-11.3	-9.3	-14.0	-8.1	-8.7
135.0	-13.9	-12.9	-12.6	-10.9	-9.2	-13.7	-7.9	-8.6
140.0	-14.3	-13.6	-12.8	-11.0	-9.1	-13.7	-8.1	-8.3
145.0	-15.1	-14.1	-12.9	-11.3	-9.1	-13.9	-8.1	-8.5
150.0	-14.0	-13.7	-12.6	-11.0	-8.8	-13.7	-7.7	-8.4
155.0	-14.4	-13.8	-12.8	-10.9	-9.1	-14.1	-8.1	-8.3
160.0	-15.1	-14.1	-13.0	-11.4	-9.2	-13.9	-8.1	-8.4
165.0	-15.1	-13.9	-12.8	-11.1	-8.9	-13.8	-7.8	-8.6
170.0	-14.6	-13.4	-12.6	-11.3	-9.0	-14.1	-7.9	-8.3
175.0	-14.2	-13.3	-13.1	-11.3	-9.2	-14.1	-7.9	-8.6
180.0	-14.2	-13.5	-13.2	-11.7	-7.6	-14.1	-8.1	-8.6
185.0	-15.0	-14.3	-13.4	-11.7	-9.4	-14.3	-8.6	-8.9
190.0	-13.9	-14.2	-13.4	-11.3	-8.5	-14.2	-8.3	-8.8
195.0	-14.6	-14.0	-13.5	-11.8	-9.3	-14.3	-8.4	-9.2
200.0	-14.7	-14.5	-13.5	-11.8	-9.3	-14.6	-8.3	-9.2
205.0	-14.7	-14.9	-13.2	-11.6	-9.0	-14.5	-8.2	-9.1
210.0	-13.8	-14.4	-112.	-11.7	-8.6	-14.1	-8.3	-9.0
215.0	-14.2	-14.2	-12.6	-10.4	-9.3	-14.0	-7.4	-7.4
220.0	-13.9	-13.8	-13.3	-11.4	-9.1	-14.3	-8.0	-8.7
225.0	-14.2	-14.2	-13.3	-11.4	-9.1	-14.1	-8.0	-8.9
230.0	-14.1	-14.1	-13.0	-11.2	-8.9	-14.2	-8.3	-9.0
235.0	-13.8	-13.8	-13.1	-11.4	-8.7	-14.2	-7.9	-8.4
240.0	-13.4	-13.9	-13.1	-11.2	-8.8	-14.3	-7.9	-8.6
245.0	-13.7	-13.9	-13.1	-11.4	-8.6	-14.1	-8.1	-8.7
250.0	-13.9	-14.5	-13.0	-11.1	-8.9	-13.9	-8.1	-8.7
255.0	-13.4	-13.7	-12.8	-11.4	-7.7	-14.1	-8.1	-8.4
260.0	-13.1	-13.8	-12.7	-11.1	-7.7	-13.7	-7.8	-8.2
265.0	-13.3	-13.8	-12.8	-11.2	-8.0	-13.9	-7.6	-8.4
270.0	-12.3	-13.9	-12.9	-10.9	-7.7	-13.4	-7.8	-8.5
275.0	-13.1	-14.3	-12.8	-11.0	-7.9	-13.6	-7.8	-8.6
280.0	-12.4	-13.7	-12.7	-11.1	-6.9	-13.6	-7.6	-8.4
285.0	-11.8	-13.4	-12.8	-10.8	-7.0	-13.7	-7.3	-7.8
290.0	-12.6	-13.9	-12.4	-10.9	-7.8	-13.8	-7.4	-8.2

AFSS RUN #1 DAY 2112

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	6.3	5.7	5.6	5.4	6.3	5.7	4.8	5.4
5.0	6.5	5.9	5.8	5.5	6.6	5.9	4.9	5.6
10.0	6.4	5.8	5.7	5.4	6.5	5.9	4.9	5.5
15.0	6.1	5.6	5.5	5.2	6.3	5.7	4.8	5.3
20.0	5.7	5.3	5.2	4.9	5.9	5.4	4.8	5.0
25.0	5.6	5.2	5.1	4.6	5.7	5.3	4.7	4.8
30.0	5.3	4.9	4.4	3.2	5.5	5.1	3.8	3.7
35.0	5.1	4.6	3.6	1.3	5.3	4.9	2.6	1.8
40.0	4.6	4.1	2.4	-0.7	4.9	4.4	2.3	-0.2
45.0	4.3	3.2	0.7	-3.9	4.6	3.9	0.9	-3.1
50.0	3.7	2.3	-1.1	-6.1	4.1	3.3	0.1	-5.4
55.0	3.1	1.1	-2.8	-6.8	3.6	2.6	0.2	-6.8
60.0	2.4	-0.4	-5.7	-7.1	2.9	1.6	0.4	-7.3
65.0	1.8	-2.1	-7.8	-6.2	1.9	0.1	1.1	-6.8
70.0	0.6	-5.4	-9.0	-7.3	0.2	-2.0	1.2	-7.3
75.0	-0.7	-9.6	-9.4	-7.3	-1.4	-5.9	1.2	-7.4
80.0	-4.0	-10.1	-8.9	-7.1	-8.5	-8.6	1.0	-7.1
85.0	-5.4	-10.0	-8.7	-7.1	-9.7	-8.4	1.0	-7.0
90.0	-5.0	-9.8	-8.4	-6.7	-9.4	-8.2	1.4	-6.6
95.0	-5.1	-10.1	-8.5	-6.6	-9.7	-8.4	1.3	-6.9
100.0	-5.1	-9.9	-8.2	-6.8	-13.2	-8.6	1.1	-6.4
105.0	-5.7	-10.0	-8.6	-6.6	-12.2	-8.7	1.2	-6.1
110.0	-4.8	-9.5	-8.1	-6.6	-10.7	-8.4	1.4	-6.7
115.0	-4.7	-9.7	-8.3	-6.6	-9.3	-8.2	1.3	-6.8
120.0	-5.1	-10.1	-8.4	-6.2	-9.6	-8.2	1.3	-6.3
125.0	-5.1	-10.0	-8.6	-6.7	-10.1	-8.5	1.3	-6.8
130.0	-5.5	-10.4	-8.5	-6.8	-10.3	-8.6	1.2	-7.0
135.0	-5.6	-10.2	-8.3	-6.8	-9.9	-8.6	1.3	-6.9
140.0	-5.6	-10.0	-8.9	-7.0	-10.4	-8.4	1.4	-6.8
145.0	-5.5	-10.1	-9.0	-6.9	-10.9	-8.7	1.4	-6.8
150.0	-5.0	-10.1	-8.8	-7.1	-10.0	-8.4	1.2	-6.9
155.0	-5.1	-10.3	-8.4	-6.4	-10.3	-8.2	1.6	-6.7
160.0	-5.6	-10.1	-8.9	-6.8	-10.2	-8.5	1.9	-6.7
165.0	-5.9	-10.5	-8.9	-6.9	-10.1	-8.7	2.1	-6.9
170.0	-5.2	-10.1	-8.6	-6.6	-10.1	-8.5	2.1	-7.0
175.0	-5.2	-10.2	-8.7	-6.9	-9.9	-8.6	2.0	-7.0
180.0	-5.5	-10.1	-8.8	-6.9	-9.7	-8.7	2.0	-7.1
185.0	-5.7	-10.4	-9.0	-7.0	-10.2	-8.7	1.9	-7.1
190.0	-5.4	-10.3	-9.1	-7.1	-9.4	-8.9	1.9	-7.2
195.0	-5.6	-10.6	-8.7	-7.1	-9.7	-8.8	1.8	-7.3
200.0	-6.0	-10.7	-9.1	-7.4	-9.9	-8.9	1.7	-7.3
205.0	-6.2	-10.7	-8.9	-6.8	-10.1	-8.8	1.7	-6.8
210.0	-5.5	-10.6	-9.3	-7.3	-9.3	-8.8	1.8	-7.3
215.0	-5.7	-10.6	-9.0	-7.1	-9.7	-8.9	1.8	-7.1
220.0	-5.4	-10.5	-9.1	-7.3	-9.7	-8.9	1.8	-7.2
225.0	-5.4	-10.4	-9.0	-6.8	-9.7	-8.7	1.7	-6.9
230.0	-4.9	-10.4	-8.7	-7.1	-9.4	-8.6	1.7	-6.8
235.0	-5.9	-10.4	-9.0	-7.0	-9.2	-8.6	1.8	-7.2
240.0	-4.9	-10.2	-8.8	-6.8	-8.9	-8.7	1.8	-7.3
245.0	-5.1	-10.1	-8.7	-6.9	-8.7	-8.6	1.8	-6.9
250.0	-5.4	-10.2	-8.9	-7.1	-9.3	-8.4	1.8	-6.7
255.0	-4.8	-9.6	-8.6	-6.6	-8.5	-8.4	1.8	-6.9
260.0	-4.9	-10.1	-8.6	-6.6	-8.3	-8.4	1.9	-6.8
265.0	-4.6	-9.3	-7.3	-5.5	-8.2	-8.1	2.0	-5.9
270.0	-4.2	-9.6	-8.4	-6.7	-7.5	-8.1	2.0	-6.8
275.0	-4.6	-9.6	-8.7	-6.7	-7.8	-8.2	1.9	-6.9
280.0	-4.2	-9.6	-8.6	-6.4	-7.2	-8.2	1.9	-6.9
285.0	-3.8	-9.9	-8.8	-6.4	-7.1	-8.2	2.1	-6.6
290.0	-4.1	-9.8	-8.6	-6.6	-7.2	-8.1	2.0	-6.6

AFSS RUN # 1 DAY 2112

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 5.1	7.7	8.3	8.8
5.1	7.7	8.3	8.3
5.2	7.7	8.3	8.3
5.2	7.2	8.3	8.3
5.3	7.2	8.0	8.3
5.4	7.2	8.2	8.0
5.5	7.3	7.7	7.7
5.7	7.2	7.8	7.7
5.8	7.3	7.3	7.2
5.9	7.2	7.3	7.2

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 5.2	8.1	8.3	8.3
5.3	8.3	7.7	7.7
5.4	8.1	7.7	7.7
5.5	7.8	7.2	7.3
5.6	7.7	7.2	7.2
5.7	7.2	7.2	7.2
5.8	7.2	6.6	6.7
6.0	7.2	6.6	5.1
6.2	7.2	6.1	6.1
6.3	7.2	5.6	5.9

AFSS RUN # 1 DAY 2112

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 5.0	7.3	5.0	4.4
5.1	7.3	6.5	5.5
5.2	7.2	5.0	4.8
5.3	7.2	6.1	5.5
5.4	7.2	5.5	5.2
5.6	6.6	5.2	4.4
5.6	6.3	3.8	3.8
5.8	6.1	2.2	2.2
5.9	5.5	-1.1	-1.1
6.0	6.1	-11.6	-12.7

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 4.9	6.7	3.3	4.5
5.1	6.6	3.8	4.3
5.2	6.6	4.4	4.6
5.3	6.1	3.8	4.4
5.3	6.1	3.3	4.1
5.4	6.1	1.6	2.7
5.6	5.5	0.6	1.6
5.7	5.5	-2.2	-1.6
5.8	5.5	-8.3	-6.1
5.9	5.5	-11.6	-10.3

AFSS RUN # 1 DAY 2112

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 4.9	5.5	-5.0	-5.0
5.0	5.5	-1.3	-2.2
5.2	5.3	-1.1	-2.7
5.3	5.5	-2.2	-3.8
5.3	5.3	-5.0	-6.6
5.4	5.0	-7.2	-8.8
5.5	5.0	-12.1	-15.0
5.6	5.0	-18.3	-19.0
5.7	4.7	-19.0	-19.0
5.8	4.4	-17.7	-18.1

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 4.7	4.7	4.0	-6.1
4.8	4.7	-5.0	-4.4
4.9	4.4	-5.5	-5.5
5.0	4.4	-6.6	-8.5
5.1	4.4	-11.6	-11.6
5.1	4.4	-14.1	-13.3
5.2	4.3	-13.9	-12.7
5.2	4.4	-14.4	-13.8
5.4	4.4	-14.4	-14.4
5.4	4.2	-14.7	-12.7

AFSS RUN # 1 DAY 2112

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 4.6	5.3	-32.6	-25.8
4.7	4.4	-22.7	-20.0
4.8	4.8	-20.0	-19.6
4.9	4.4	-20.0	-18.8
4.9	4.2	-21.0	-20.0
5.1	4.2	-20.0	-20.0
5.1	4.4	-19.5	-19.1
5.2	3.8	-19.4	-20.0
5.3	3.5	-19.4	-19.4
5.4	3.3	-18.8	-19.4

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 4.6	4.7	-11.6	-15.5
4.7	4.4	-12.7	-13.6
4.8	4.4	-11.6	-12.2
4.8	4.4	-12.2	-12.2
4.9	4.4	-12.7	-11.[illegible]
5.0	4.3	-12.7	-12.2
5.1	4.3	-12.7	-11.2
5.2	3.8	-13.8	-11.5
5.3	3.7	-13.8	-12.7
5.4	3.7	-13.8	-12.7

AFSS RUN # 1 DAY 2112

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TCP 4.7	4.4	-31.6	-28.8
4.8	4.4	-22.2	-20.2
4.9	4.3	-21.8	-21.8
4.9	4.2	-20.3	-20.5
5.0	3.8	-20.5	-20.5
5.1	3.9	-19.4	-21.1
5.2	3.8	-18.8	-20.1
5.2	3.8	-20.5	-20.0
5.4	3.8	-18.8	-19.7
5.4	3.5	-18.8	-18.3

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TCP 4.5	4.7	-12.2	-15.3
4.6	4.7	-12.8	-13.4
4.7	4.4	-13.3	-12.7
4.8	4.5	-13.4	-12.3
4.9	4.4	-12.6	-11.1
4.9	3.8	-13.2	-11.2
5.0	3.8	-12.2	-11.1
5.1	3.6	-13.6	-12.3
5.2	3.7	-14.4	-13.8
5.3	3.8	-13.2	-11.7

AFSS RUN # 1 DAY 2112

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 4.5	3.8	-32.8	-29.8
4.7	3.8	-24.5	-22.7
4.8	3.8	-21.2	-21.6
4.9	3.8	-21.0	-20.8
4.9	3.4	-21.6	-21.7
5.1	3.8	-19.7	-21.6
5.1	3.3	-20.8	-20.0
5.3	3.3	-21.3	-20.5
5.3	3.3	-20.4	-20.7
5.4	3.3	-19.4	-19.4

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 4.5	4.4	-12.7	-20.5
4.7	4.4	-13.8	-15.9
4.8	4.6	-12.7	-13.8
4.9	4.0	-13.8	-13.4
4.9	4.2	-12.7	-12.6
5.1	3.9	-14.3	-12.7
5.1	3.8	-12.7	-12.7
5.2	3.8	-12.7	-12.7
5.3	3.8	-14.4	-12.7
5.3	3.8	-13.8	-12.0

AFSS RUN # 1 DAY 2112

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	4.4	4.4	-28.3	-31.7
	4.6	4.9	-20.3	-22.0
	4.7	4.7	-20.2	-20.8
	4.8	5.5	-19.4	-20.1
	4.9	5.0	-19.2	-19.4
	5.0	4.8	-19.0	-18.3
	5.0	5.0	-18.8	-18.8
	5.1	4.4	-19.0	-18.8
	5.2	4.4	-19.3	-19.3
	5.3	4.4	-16.6	-18.8

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	4.3	5.2	-11.3	-16.0
	4.4	4.4	-12.2	-12.8
	4.6	5.0	-13.0	-12.8
	4.6	4.4	-11.0	-11.5
	4.7	5.0	-13.0	-12.1
	4.8	4.4	-13.6	-12.7
	4.8	4.2	-13.8	-13.2
	4.9	4.2	-14.6	-13.8
	5.1	3.8	-14.5	-13.2
	5.1	3.8	-15.0	-12.7

AFSS RUN # 1 DAY 2112

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 4.2	4.4	-26.1	-34.4
4.3	4.4	-22.4	-22.7
4.4	3.8	-21.6	-21.6
4.6	3.7	-21.6	-20.5
4.6	3.3	-22.2	-21.6
4.7	3.3	-22.2	-20.5
4.8	3.3	-21.6	-21.6
4.8	2.7	-21.6	-21.6
4.9	2.7	-20.5	-20.9
4.9	2.7	-18.8	-20.0

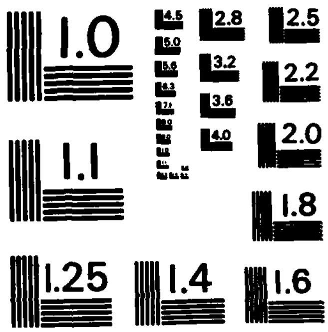
TEST TIME 225.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 4.2	3.2	-14.0	-18.8
4.3	2.7	-14.9	-14.7
4.5	2.7	-14.8	-14.4
4.6	2.8	-15.0	-14.4
4.6	2.6	-14.4	-14.6
4.7	2.7	-15.7	-14.8
4.8	2.2	-15.0	-13.8
4.8	2.7	-15.5	-15.0
4.9	2.7	-15.5	-15.0
4.9	2.3	-15.0	-13.7

AD-A121 330 AN EXPERIMENTAL INVESTIGATION OF POTENTIAL ICING OF THE SPACE SHUTTLE EXT..(U) COLD REGIONS RESEARCH AND ENGINEERING LAB HANOVER NH M G FERRICK ET AL. SEP 82 2/4

UNCLASSIFIED CRREL-82-25 MIPR-FY7616-82-00394 F/G 22/2 NL



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AFSS RUN # 1 DAY 2112

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TCP	4.3	2.7	-28.3	-31.6
	4.4	3.4	-21.6	-22.7
	4.5	3.3	-21.6	-22.2
	4.6	3.3	-22.2	-21.6
	4.7	2.7	-23.7	-22.1
	4.8	2.7	-21.6	-21.6
	4.8	2.7	-20.5	-20.0
	4.9	2.7	-20.5	-20.5
	4.9	2.7	-20.5	-20.5
	5.0	2.6	-20.0	-20.0

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TCP	4.4	3.3	-12.7	-17.2
	4.6	4.1	-12.7	-14.4
	4.7	3.8	-13.8	-14.2
	4.8	3.3	-14.4	-14.4
	4.9	3.3	-13.8	-13.3
	5.0	3.3	-14.4	-13.3
	5.1	3.1	-13.8	-13.8
	5.1	3.3	-15.0	-14.4
	5.2	2.7	-15.5	-14.2
	5.2	3.3	-14.1	-13.3

AFSS RUN # 1 DAY 2112

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 4.7	3.8	-26.1	-28.8
4.8	4.4	-20.0	-20.7
4.9	4.4	-19.7	-21.0
5.1	4.0	-20.3	-20.0
5.1	4.2	-20.4	-21.0
5.2	3.8	-20.0	-20.0
5.3	4.0	-20.0	-20.0
5.3	3.8	-19.7	-19.7
5.4	2.7	-20.0	-20.0
5.4	3.3	-18.3	-18.3

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 4.8	4.4	-9.4	-12.5
5.0	4.4	-11.6	-11.7
5.2	4.4	-12.3	-12.2
5.2	3.8	-13.2	-12.5
5.3	3.9	-12.2	-12.0
5.4	3.8	-13.2	-12.7
5.5	3.8	-12.2	-12.2
5.6	3.8	-12.8	-12.7
5.6	3.8	-12.9	-12.7
5.7	3.6	-12.2	-12.4

AFSS RUN #2 DAY 2116

Test Time (min)	4 Meter Dewcell Dew point	4 Meter Dewcell Temp	1 Meter Dewcell Dew point	1 Meter Dewcell Temp	Radiometers mW/cm 2 West	Radiometers mW/cm 2 East
0.0	11.0 C	11.7 C	10.3 C	11.3 C	-0.230	-0.230
5.0	10.9	11.8	10.5	11.4	-0.230	-0.230
10.0	11.0	11.8	10.5	11.3	0.000	0.000
15.0	10.9	11.7	10.3	11.2	0.230	0.690
20.0	10.8	11.7	10.4	11.3	0.920	1.839
25.0	10.9	11.7	10.6	11.4	1.839	2.988
30.0	10.9	11.7	10.3	11.2	2.759	4.598
35.0	10.9	11.7	10.2	11.1	3.908	5.977
40.0	10.9	11.6	10.5	11.2	4.138	5.747
45.0	10.9	11.6	10.3	11.0	4.368	5.747
50.0	10.9	11.6	10.4	11.1	4.138	5.517
55.0	10.9	11.6	10.3	11.0	4.138	5.287
60.0	10.9	11.5	10.5	11.1	4.138	5.057
65.0	11.0	11.5	10.3	11.1	3.908	5.057
70.0	10.9	1..5	10.2	11.0	3.908	4.828
75.0	11.0	11.6	10.4	11.0	3.678	4.598
80.0	11.0	11.6	10.6	11.1	3.678	4.368
85.0	10.9	11.5	10.3	11.0	3.448	4.368
90.0	11.1	11.6	10.5	11.1	3.448	4.138
95.0	11.1	11.5	10.5	11.0	3.218	3.908
100.0	11.0	11.5	10.4	10.9	3.218	3.908
105.0	11.1	11.5	10.5	10.9	2.988	3.678
110.0	11.0	11.5	10.7	11.0	2.988	3.678
115.0	11.1	11.4	10.3	10.8	2.759	3.678
120.0	11.0	11.5	10.5	10.9	2.759	3.448
125.0	11.0	11.5	10.6	11.0	2.759	3.448
130.0	11.0	11.5	10.4	11.0	2.759	3.218
135.0	11.1	11.5	10.5	11.0	2.529	3.218
140.0	11.1	11.5	10.5	10.9	2.529	3.218
145.0	11.1	11.5	10.4	10.8	2.529	3.218
150.0	11.1	11.5	10.5	10.9	2.529	2.988
155.0	11.1	11.5	10.4	10.9	2.299	3.218
160.0	11.0	11.5	10.6	10.9	2.299	2.988
165.0	11.2	11.6	10.6	10.9	2.299	3.218
170.0	11.3	11.6	10.4	10.9	2.299	2.988
175.0	11.3	11.7	10.5	11.0	2.069	2.988
180.0	11.2	11.5	10.7	11.0	2.299	2.759
185.0	11.2	11.4	10.8	11.0	2.069	2.988
190.0	11.2	11.4	10.6	10.8	2.299	2.759
195.0	11.2	11.4	10.6	10.8	2.069	2.759
200.0	11.1	11.3	10.7	10.7	2.069	2.759
205.0	11.4	11.4	10.5	10.6	1.839	2.759
210.0	11.1	11.4	10.5	10.7	2.069	2.759
215.0	11.1	11.3	10.4	10.7	2.069	2.759
220.0	11.1	11.3	10.4	10.6	2.069	2.759
225.0	11.1	11.3	10.4	10.6	2.069	2.759
230.0	11.2	11.2	10.5	10.7	2.069	2.759
235.0	11.1	11.2	10.1	10.2	2.069	2.759
240.0	11.0	11.1	10.2	10.3	1.839	2.529
245.0	11.0	11.1	10.3	10.3	2.069	2.759
250.0	11.0	11.1	10.2	10.4	2.069	2.529
255.0	11.0	11.2	10.2	10.2	1.839	2.529
260.0	11.3	11.3	10.2	10.1	1.609	2.529
265.0	11.3	11.3	10.3	10.3	1.839	2.529
270.0	11.0	11.3	10.1	10.1	1.839	2.529
275.0	11.2	11.3	10.1	10.1	1.839	2.529
280.0	11.1	11.3	10.1	10.2	1.839	2.529
285.0	11.0	11.2	10.2	10.3	1.839	2.529
290.0	11.2	11.3	9.9	10.1	1.839	2.299

AFSS RUN #2 DAY 2116

Test Time	Ceiling		Floor		Plastic Walls			
(min)	East	West	East	West	N	S	E	W
0.0	11.8C	11.8C	9.0 C	9.7 C	11.6C	11.3C	11.5C	11.1C
5.0	11.8	11.8	9.1	9.7	11.6	11.4	11.5	11.2
10.0	11.8	11.7	9.1	9.6	11.5	11.3	11.6	11.2
15.0	11.8	11.7	9.0	9.6	11.4	11.3	11.4	11.1
20.0	11.7	11.7	8.9	9.5	11.3	11.3	11.3	11.1
25.0	11.7	11.7	8.9	9.5	11.3	11.2	11.3	11.1
30.0	11.6	11.6	8.9	9.4	11.2	11.2	11.2	10.9
35.0	11.6	11.6	8.9	9.4	11.2	11.1	11.2	10.9
40.0	11.6	11.6	8.9	9.3	11.1	11.0	11.2	10.9
45.0	11.4	11.4	8.9	9.3	11.1	11.1	11.1	10.8
50.0	11.5	11.4	8.9	9.3	11.1	11.0	11.1	10.9
55.0	11.4	11.4	8.8	9.3	11.1	11.0	11.0	10.9
60.0	11.3	11.4	8.8	9.3	11.0	11.0	11.1	10.9
65.0	11.4	11.4	8.8	9.3	11.0	11.0	11.1	10.9
70.0	11.3	11.4	8.8	9.3	11.0	11.0	11.0	10.9
75.0	11.5	11.4	8.8	9.2	11.0	10.9	10.9	10.9
80.0	11.2	11.4	8.8	9.2	11.0	10.9	11.0	10.8
85.0	11.5	11.4	8.8	9.3	10.9	10.9	10.9	10.8
90.0	11.2	11.3	8.8	9.2	10.9	10.9	10.9	10.8
95.0	11.2	11.3	8.8	9.2	10.9	10.9	10.9	10.8
100.0	11.2	11.3	8.8	9.2	10.9	10.8	10.9	10.7
105.0	11.3	11.3	8.8	9.2	10.9	10.8	10.8	10.8
110.0	11.2	11.3	8.8	9.1	10.8	10.8	10.8	10.7
115.0	11.4	11.2	8.8	9.2	10.9	10.8	10.9	10.7
120.0	11.3	11.3	8.8	9.2	10.8	10.8	10.9	10.7
125.0	11.3	11.3	8.8	9.2	10.8	10.9	10.9	10.7
130.0	11.3	11.3	8.8	9.2	10.9	10.9	10.9	10.8
135.0	11.3	11.3	8.8	9.1	10.9	10.9	10.8	10.8
140.0	11.3	11.3	8.7	9.1	10.8	10.8	10.8	10.7
145.0	11.4	11.3	8.7	9.1	10.8	10.8	10.8	10.8
150.0	11.3	11.3	8.8	9.1	10.9	10.8	10.8	10.8
155.0	11.4	11.3	8.8	9.1	10.9	10.9	11.0	10.8
160.0	11.4	11.3	8.7	9.1	10.9	10.9	11.0	10.8
165.0	11.3	11.3	8.7	9.1	10.9	10.8	10.9	10.8
170.0	11.4	11.3	8.7	9.0	10.9	10.9	10.9	10.9
175.0	11.3	11.3	8.7	9.1	10.9	10.9	10.9	10.9
180.0	11.2	11.3	8.8	9.2	10.9	10.9	10.8	10.8
185.0	11.2	11.3	8.8	9.2	10.8	10.8	10.9	10.7
190.0	11.2	11.3	8.8	9.1	10.8	10.7	10.9	10.7
195.0	11.2	11.3	8.7	9.2	10.8	10.7	10.8	10.7
200.0	11.2	11.2	8.7	9.1	10.8	10.8	10.8	10.7
205.0	11.3	11.2	8.7	9.1	10.8	10.7	10.7	10.7
210.0	11.1	11.2	8.7	9.1	10.8	10.6	10.8	10.6
215.0	11.1	11.2	8.7	9.1	10.8	10.7	10.9	10.7
220.0	11.0	11.2	8.7	9.1	10.7	10.6	10.7	10.6
225.0	10.9	11.2	8.7	9.1	10.7	10.7	10.7	10.8
230.0	11.0	11.2	8.7	9.1	10.7	10.7	10.7	10.7
235.0	11.0	11.2	8.6	9.1	10.7	10.5	10.6	10.5
240.0	11.1	11.1	8.7	9.1	10.7	10.4	10.6	10.4
245.0	11.2	11.1	8.6	9.1	10.6	10.4	10.6	10.4
250.0	11.2	11.1	8.6	8.7	10.6	10.4	10.6	10.4
255.0	11.3	11.1	8.6	8.6	10.7	10.4	10.6	10.4
260.0	11.3	11.1	8.6	8.6	10.7	10.4	10.6	10.3
265.0	11.3	11.1	8.7	8.8	10.6	10.3	10.6	10.3
270.0	11.2	11.1	8.7	8.7	10.6	10.4	10.6	10.4
275.0	11.2	11.1	8.6	8.8	10.7	10.4	10.7	10.4
280.0	11.1	11.1	8.6	8.7	10.7	10.4	10.6	10.3
285.0	11.0	11.1	8.6	8.7	10.7	10.4	10.6	10.3
290.0	11.0	11.0	8.6	8.8	10.7	10.4	10.6	10.4

AFSS RUN #2 DAY 2116

Test Time (min)	Thermocouple Readout by Position SIDE A 1	2	3	4	5	6	7	8
0.0	11.7	11.9	11.4	11.2	11.7	11.6	11.3	11.1
5.0	11.7	11.9	11.5	11.2	11.7	11.6	11.3	11.1
10.0	11.4	11.5	10.4	9.9	11.4	11.2	11.0	9.7
15.0	10.1	10.6	6.8	4.9	10.3	9.4	9.1	5.6
20.0	8.3	9.9	2.9	-0.9	8.8	6.5	5.9	0.6
25.0	6.3	9.4	-0.7	-2.8	7.1	2.7	2.7	-0.3
30.0	3.2	9.1	-3.8	-2.1	4.4	-0.8	0.6	-0.3
35.0	0.6	8.9	-4.1	-2.6	2.2	-4.6	0.6	-0.7
40.0	-3.3	8.7	-3.7	-2.2	0.0	-5.3	0.7	-0.2
45.0	-4.1	8.6	-3.6	-2.6	-0.3	-4.8	0.5	-0.6
50.0	-3.6	8.6	-3.7	-2.6	-0.3	-4.7	0.4	-0.4
55.0	-3.7	8.4	-3.7	-2.7	0.2	-4.5	0.6	-0.7
60.0	-3.4	8.5	-3.6	-2.4	-0.2	-4.4	0.3	-0.7
65.0	-4.1	9.4	-3.4	-2.4	-0.4	-5.3	0.0	-0.7
70.0	-3.7	8.6	-3.7	-2.6	-0.5	-5.0	0.2	-0.1
75.0	-3.6	8.3	-3.9	-2.3	0.2	-4.9	0.3	-0.5
80.0	-3.6	8.4	-3.6	-1.4	-0.6	-5.1	1.0	0.6
85.0	-3.7	8.2	-4.0	-2.3	-0.3	-4.7	0.2	-0.7
90.0	-3.8	8.3	-4.6	-2.3	-0.1	-5.6	0.2	-0.5
95.0	-4.1	8.1	-4.5	-2.3	0.2	-4.9	0.5	-0.6
100.0	-4.2	8.3	-4.6	-2.3	-0.4	-5.3	0.3	-0.1
105.0	-4.7	9.1	-4.7	-2.4	-0.7	-5.7	-0.1	-0.8
110.0	-4.5	8.3	-4.8	-1.6	-0.9	-5.6	0.4	-0.4
115.0	-4.9	8.9	-5.0	-2.3	-1.1	-6.1	0.3	-0.7
120.0	-4.5	8.4	-5.4	-2.2	-0.8	-5.9	0.2	-0.8
125.0	-4.7	8.3	-5.4	-2.3	-0.6	-5.8	0.4	-0.6
130.0	-4.3	8.4	-5.4	-2.3	-0.9	-5.9	0.1	-1.0
135.0	-5.6	8.7	-5.7	-2.3	-1.2	-6.2	0.2	-0.6
140.0	-5.3	8.3	-5.7	-2.6	-1.0	-5.5	0.3	-0.8
145.0	-5.3	8.2	-5.8	-2.4	-0.8	-5.7	0.2	-0.8
150.0	-4.9	8.2	-6.1	-2.9	-0.4	-5.8	0.4	-0.8
155.0	-4.6	8.5	-6.0	-2.4	-0.2	-6.3	0.2	-0.8
160.0	-5.0	8.4	-6.1	-2.4	-0.6	-6.2	0.3	-0.8
165.0	-4.4	8.5	-6.4	-2.6	-0.1	-6.4	0.2	-0.9
170.0	-4.7	8.4	-6.2	-1.8	-0.1	-6.1	0.5	-0.7
175.0	-4.5	8.6	-6.3	-2.1	-0.1	-6.5	0.2	-0.8
180.0	-4.8	8.6	-6.4	-1.7	-0.4	-6.8	0.4	-0.8
185.0	-5.9	8.2	-6.6	-2.2	-0.9	-6.4	0.2	-0.8
190.0	-6.3	8.3	-6.8	-2.8	-1.2	-6.5	0.0	-1.2
195.0	-6.4	8.2	-7.1	-2.6	-1.1	-6.4	0.0	-1.3
200.0	-6.8	8.0	-6.9	-1.8	-1.4	-6.6	0.0	-1.2
205.0	-6.8	9.3	-7.4	-2.8	-1.4	-7.2	-0.3	-1.3
210.0	-6.9	8.9	-7.2	-1.9	-1.3	-6.8	-0.1	-1.0
215.0	-7.3	8.1	-7.6	-2.6	-1.0	-6.9	-0.1	-1.4
220.0	-7.2	8.0	-7.6	-2.4	-1.0	-5.7	0.0	-1.4
225.0	-6.7	8.3	-7.8	-2.7	-1.1	-6.7	-0.2	-1.8
230.0	-6.1	8.5	-7.8	-2.8	-1.1	-7.1	-0.2	-1.6
235.0	-6.8	8.4	-8.2	-3.1	-1.0	-7.1	-0.1	-1.8
240.0	-7.1	8.2	-8.3	-3.0	-0.9	-7.1	-0.2	-1.8
245.0	-7.8	8.1	-8.6	9999.9	-1.7	-7.1	-0.4	-2.0
250.0	-7.3	8.0	-8.6	9999.9	-1.0	-7.2	-0.5	-2.0
255.0	-7.3	8.9	-8.8	9999.9	-1.3	-7.7	-0.4	-1.8
260.0	-7.0	9.7	-8.7	9999.9	-0.9	-7.8	-0.1	-1.7
265.0	-6.7	9.9	-8.8	9999.9	-0.9	-7.7	-0.2	-1.8
270.0	-6.0	9.2	-9.2	-3.3	-0.6	-7.5	-0.5	-1.7
275.0	-6.1	9.7	-9.2	-3.2	-0.6	-7.8	-0.4	-1.7
280.0	-6.0	9.2	-9.8	-3.4	-0.4	-7.4	-0.7	-2.1
285.0	-5.7	8.8	-9.6	-2.9	-0.2	-6.6	-0.4	-1.9
290.0	-4.7	9.5	-9.8	-3.2	-0.2	-7.3	-0.8	-1.8

AFSS RUN #2 DAY 2116

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	11.8	11.6	11.4	11.2	12.1	11.6	9.1	11.2
5.0	11.8	11.7	11.5	11.3	12.1	11.7	9.2	11.2
10.0	11.6	11.4	11.1	10.4	11.7	11.4	9.1	10.5
15.0	11.0	10.1	9.1	7.3	11.1	10.3	9.2	7.7
20.0	9.9	7.9	6.1	2.7	10.4	8.6	8.9	3.7
25.0	8.6	5.4	2.9	1.3	9.9	6.6	8.8	1.7
30.0	6.7	2.4	0.7	1.1	9.7	4.4	8.5	0.8
35.0	5.0	-0.9	0.0	0.9	9.2	1.5	8.3	0.7
40.0	2.4	-1.8	-0.1	1.1	8.7	-0.4	8.3	0.9
45.0	1.1	-2.0	-0.3	0.8	8.4	-1.0	8.2	0.9
50.0	1.4	-2.4	-0.2	0.8	8.6	-1.4	8.2	0.8
55.0	1.8	-2.3	-0.2	0.9	8.4	-1.3	8.1	0.9
60.0	1.3	-2.4	-0.3	0.9	8.3	-1.2	8.2	0.9
65.0	1.7	-2.5	-0.4	0.8	9.3	-0.9	8.2	0.8
70.0	0.9	-2.8	-0.3	0.8	8.4	-1.6	8.1	0.9
75.0	1.7	-2.7	-0.3	0.8	8.3	-1.6	8.2	0.7
80.0	1.6	-2.3	-0.5	0.7	8.2	-1.1	8.2	0.7
85.0	1.4	-2.1	0.3	1.4	8.2	-1.2	8.2	1.3
90.0	2.1	-2.1	-0.3	1.0	8.4	-1.1	1.1	10.9
95.0	0.8	-2.3	-0.3	1.2	8.3	-1.3	-0.3	1.3
100.0	1.0	-2.3	-0.3	0.6	8.5	-1.3	-0.6	0.3
105.0	1.2	-2.8	-0.4	0.7	9.1	-1.3	-0.6	0.5
110.0	0.7	-2.6	-0.4	0.6	8.5	-1.6	-0.2	0.8
115.0	1.1	-2.4	-0.7	0.7	9.2	-1.5	-0.2	0.7
120.0	1.2	-2.4	-0.2	0.8	8.3	-1.6	0.0	0.7
125.0	1.3	-2.0	-0.3	0.7	8.4	-1.3	0.0	0.9
130.0	1.4	-1.9	-0.2	1.1	8.5	-1.2	-0.1	0.6
135.0	0.5	-2.4	-0.3	0.7	8.9	-1.5	-0.3	0.6
140.0	0.4	-2.1	-0.4	0.6	8.4	-1.5	-0.3	0.6
145.0	0.4	-2.3	-0.2	0.6	8.2	-1.6	-0.3	0.3
150.0	1.2	-2.0	-0.4	0.8	8.3	-1.2	-0.3	0.4
155.0	1.8	-2.0	-0.4	0.7	8.4	-1.2	-0.1	0.6
160.0	1.2	-1.6	-0.5	0.7	8.6	-1.2	-0.3	0.4
165.0	1.9	-1.6	-0.2	0.9	8.6	-1.2	-0.2	0.4
170.0	2.0	-1.8	-0.1	0.8	8.4	-1.1	-0.1	0.4
175.0	2.3	-1.7	-0.1	0.9	8.7	-1.1	0.0	0.7
180.0	1.2	-2.3	-0.3	1.2	8.7	-1.2	0.0	0.7
185.0	0.6	-2.2	-0.2	1.1	8.0	-1.3	-0.2	0.7
190.0	0.0	-2.6	-0.1	1.3	8.7	-1.6	-0.3	0.5
195.0	0.3	-2.0	-0.1	1.1	8.4	-1.2	-0.3	0.3
200.0	0.0	-2.1	-0.2	0.9	8.4	-1.1	-0.5	0.3
205.0	1.1	-2.3	0.0	1.1	9.4	-0.8	-0.4	0.3
210.0	0.1	-2.5	-0.3	0.9	8.8	-1.2	-0.3	0.3
215.0	-0.2	-2.8	-0.4	0.9	8.3	-1.5	-0.4	0.4
220.0	0.0	-3.2	-0.4	1.0	8.2	-1.4	-0.6	0.3
225.0	0.1	-3.2	0.1	0.8	8.4	-1.6	-0.5	0.3
230.0	0.9	-2.6	-0.2	0.7	8.3	-1.2	-0.4	0.3
235.0	0.2	-2.7	-0.3	0.6	8.5	-1.3	-0.7	0.3
240.0	0.3	-2.7	-0.4	0.6	8.6	-1.3	-0.1	0.3
245.0	0.0	-3.1	-0.4	0.6	8.6	-1.6	-0.2	0.3
250.0	0.1	-2.7	-0.4	0.6	8.2	-1.3	-0.3	0.4
255.0	1.0	-2.9	-0.4	0.3	9.1	-0.3	-0.6	0.4
260.0	2.1	-2.8	-0.5	0.3	9.9	-0.8	-0.4	0.5
265.0	1.5	-2.7	-0.6	0.3	9.6	-0.8	-0.3	0.6
270.0	1.2	-2.7	-0.6	0.2	9.4	-1.1	-0.4	0.2
275.0	2.0	-2.8	-0.6	0.3	9.6	-0.8	-0.4	0.3
280.0	1.6	-2.7	-0.7	0.4	9.4	-1.1	-0.4	0.4
285.0	1.2	-2.3	-0.6	0.3	9.3	-1.0	-0.2	0.8
290.0	1.3	-2.9	-0.8	0.0	9.5	-1.3	-0.5	0.5

AFSS RUN # 2 DAY 2116

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 11.7	11.6	12.2	12.2
11.6	11.6	12.7	12.7
11.6	12.7	12.7	12.7
11.5	12.7	12.2	12.5
11.5	12.7	12.5	12.2
11.4	12.7	12.0	12.2
11.3	12.2	11.6	11.8
11.2	12.2	10.5	10.5
11.1	11.6	8.8	9.5
10.9	11.6	5.5	5.5

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 11.6	12.2	10.8	10.8
11.6	12.2	10.5	10.5
11.6	11.8	10.1	10.5
11.5	12.0	8.3	9.3
11.5	11.6	8.6	8.3
11.4	11.5	6.9	7.2
11.3	11.6	5.6	6.1
11.2	11.8	3.1	4.4
11.0	10.8	0.0	1.4
10.8	10.3	-2.0	-1.2

AFSS RUN # 2 DAY 2116

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel SOFI Panel Pyrometer Data

Thermocouple		Pyrometer	Left	Right
TOP	11.5	10.5	-7.7	-7.2
	11.5	10.4	-5.3	-5.2
	11.4	10.5	-4.7	-5.0
	11.4	10.5	-8.2	-7.0
	11.4	10.7	-8.7	-9.4
	11.3	10.8	-8.7	-9.4
	11.2	10.5	-7.2	-7.2
	11.1	10.0	-8.1	-8.3
	10.9	9.6	-8.3	-8.8
	10.8	9.5	-8.1	-8.3

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel SOFI Panel Pyrometer Data

Thermocouple		Pyrometer	Left	Right
TOP	11.3	10.0	-2.2	-1.1
	11.3	10.0	-4.3	-4.0
	11.3	10.0	-3.8	-3.8
	11.3	10.0	-4.5	-4.1
	11.2	9.9	-3.5	-2.7
	11.2	10.0	-4.3	-3.3
	11.1	10.0	-4.0	-3.8
	11.0	9.6	-4.4	-4.0
	10.8	9.7	-4.8	-4.0
	10.7	9.0	-5.1	-3.8

AFSS RUN # 2 DAY 2116

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 11.3	10.0	-16.6	-16.0
11.3	10.0	-10.5	-10.8
11.3	9.7	-9.4	-9.8
11.2	9.7	-9.4	-9.4
11.2	9.5	-11.1	-11.1
11.1	9.1	-10.5	-10.5
11.1	9.4	-9.1	-9.9
10.9	9.4	-10.1	-9.4
10.8	9.1	-10.2	-8.8
10.6	8.9	-8.8	-9.5

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 11.2	9.4	-2.2	-2.2
11.2	9.3	-4.4	-4.7
11.2	9.4	-4.5	-4.6
11.2	9.6	-6.1	-4.0
11.2	9.4	-5.1	-4.2
11.1	9.3	-5.5	-4.3
11.0	9.1	-4.6	-3.7
10.9	8.8	-4.6	-5.0
10.7	8.7	-5.5	-4.5
10.6	8.8	-5.5	-3.8

AFSS RUN # 2 DAY 2116

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 11.2	9.4	-16.3	-16.6
11.2	9.0	-11.6	-10.5
11.2	9.3	-11.0	-9.3
11.1	9.2	-11.6	-10.5
11.1	8.8	-12.2	-10.5
11.1	8.8	-12.2	-10.0
10.9	8.8	-10.6	-10.3
10.9	8.8	-11.2	-10.4
10.7	8.6	-11.3	-11.0
10.6	8.6	-9.4	-11.0

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 11.1	8.4	-4.6	-3.2
11.1	8.6	-6.6	-5.9
11.1	8.6	-6.1	-5.0
11.1	8.8	-5.5	-5.5
11.1	8.5	-5.0	-5.1
11.0	8.4	-5.0	-4.4
10.9	8.8	-5.0	-4.5
10.8	8.3	-5.7	-4.7
10.7	8.3	-5.9	-4.9
10.6	8.3	-6.0	-3.7

AFSS RUN # 2 DAY 2116

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 11.1	8.3	-16.6	-17.3
11.1	8.5	-12.3	-11.1
11.1	8.8	-12.0	-10.3
11.0	8.8	-11.8	-11.1
11.0	8.8	-12.2	-11.7
10.9	8.7	-10.9	-10.6
10.9	8.8	-10.5	-10.5
10.8	8.5	-10.6	-10.5
10.6	8.3	-9.4	-10.3
10.4	8.2	-9.4	-11.0

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 11.1	8.9	-3.2	-3.7
11.1	8.8	-5.5	-4.8
11.1	8.8	-5.0	-5.2
11.1	9.5	-5.5	-4.4
11.0	9.4	-4.5	-4.3
11.0	9.4	-5.1	-5.2
10.9	8.7	-4.5	-4.8
10.8	8.5	-5.5	-5.0
10.7	8.8	-5.5	-5.2
10.5	8.3	-5.0	-4.4

AFSS RUN # 2 DAY 2116

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.1	8.8	-20.3	-17.5
	11.1	8.8	-10.8	-9.4
	11.1	8.8	-11.6	-11.5
	11.1	8.8	-10.5	-11.1
	11.0	8.8	-11.3	-12.1
	10.9	9.4	-11.1	-10.4
	10.9	10.0	-10.5	-9.3
	10.8	9.6	-10.0	-11.5
	10.6	8.8	-8.8	-9.4
	10.4	8.8	-9.1	-9.4

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.2	9.4	-1.1	-1.0
	11.1	9.1	-3.8	-2.7
	11.1	9.6	-2.7	-3.4
	11.1	9.4	-4.3	-4.3
	11.1	8.8	-4.4	-3.8
	11.0	8.8	-3.8	-4.4
	10.9	8.3	-4.4	-3.3
	10.8	8.8	-5.0	-4.7
	10.7	8.8	-5.0	-3.3
	10.5	7.7	-4.7	-2.6

AFSS RUN # 2 DAY 2116

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.2	7.3	-20.5	-19.7
	11.2	7.7	-13.0	-11.6
	11.1	8.8	-14.1	-12.7
	11.1	8.8	-11.6	-12.3
	11.1	8.3	-12.7	-13.8
	11.0	8.1	-12.7	-12.7
	10.9	8.3	-11.6	-10.5
	10.8	8.1	-11.6	-11.6
	10.7	7.8	-10.2	-10.5
	10.6	8.3	-8.6	-8.3

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.1	8.8	-4.4	-3.8
	11.1	8.8	-6.5	-5.2
	11.1	9.2	-6.1	-5.8
	11.0	9.4	-5.0	-4.7
	11.0	9.4	-5.1	-3.3
	10.9	9.4	-5.0	-6.2
	10.9	9.3	-6.6	-5.3
	10.8	7.7	-6.1	-5.8
	10.7	7.7	-6.1	-6.3
	10.6	7.7	-5.7	-6.0

AFSS RUN # 2 DAY 2116

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.0	8.3	-20.0	-20.8
	11.0	8.8	-14.9	-12.2
	11.0	7.7	-14.6	-12.7
	11.0	8.3	-12.7	-12.5
	10.9	8.8	-14.8	-13.8
	10.9	8.3	-14.4	-12.7
	10.8	7.3	-12.7	-10.5
	10.7	8.3	-12.7	-12.6
	10.6	7.9	-12.3	-11.1
	10.4	7.3	-9.4	-7.8

TEST TIME 225.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.0	8.8	-4.3	-1.7
	11.0	10.1	-6.1	-4.6
	11.0	10.0	-6.2	-5.8
	10.9	9.4	-8.3	-7.7
	10.9	8.2	-6.1	-4.0
	10.9	8.1	-6.1	-5.2
	10.8	8.2	-4.9	-4.4
	10.7	8.2	-5.1	-4.4
	10.5	8.3	-5.2	-5.2
	10.3	7.7	-4.9	-4.0

AFSS RUN # 2 DAY 2116

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	10.9	9.1	-18.3	-17.2
	10.9	8.8	-12.7	-9.1
	10.9	8.7	-13.3	-10.8
	10.9	8.7	-11.6	-11.1
	10.8	9.4	-13.3	-12.2
	10.8	8.8	-12.7	-11.7
	10.7	8.3	-11.3	-11.0
	10.6	8.8	-11.6	-11.2
	10.4	8.8	-12.1	-11.0
	10.2	8.8	-11.5	-11.7

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	10.9	10.2	-1.6	-2.1
	10.9	9.4	-3.7	-3.3
	10.9	10.0	-4.1	-2.8
	10.8	10.0	-4.6	-3.3
	10.8	9.8	-3.8	-2.7
	10.8	10.0	-5.4	-3.3
	10.7	10.0	-3.3	-3.3
	10.6	9.4	-3.8	-3.5
	10.3	9.4	-4.6	-3.8
	10.1	8.8	-2.9	-2.2

AFSS RUN # 2 DAY 2116

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 10.9	10.8	-17.2	-17.5
10.9	10.0	-10.7	-8.3
10.9	10.0	-11.1	-10.5
10.9	10.0	-9.2	-9.4
10.9	9.8	-9.6	-11.3
10.8	8.5	-13.3	-13.8
10.7	9.2	-10.7	-9.4
10.8	8.7	-10.6	-11.6
10.5	8.8	-11.1	-8.3
10.2	8.3	-8.8	-9.4

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 10.9	9.4	-0.6	-1.1
10.9	1.0	-2.8	-4.5
10.9	9.8	-2.2	-2.7
10.9	10.0	-2.7	-2.3
10.8	10.0	-2.7	-3.8
10.8	10.0	-4.0	-3.3
10.7	10.0	-3.5	-2.2
10.6	9.2	-3.8	-3.3
10.4	8.3	-3.8	-2.7
10.1	8.3	-3.8	-2.7

AFSS RUN #3 DAY 2118

Test Time (min)	4 Meter Dewcell Dew point	4 Meter Dewcell Temp	1 Meter Dewcell Dew point	1 Meter Dewcell Temp	Radiometers W/cm 2 West	Radiometers W/cm 2 East
0.0	-3.0 C	7.3 C	-3.7 C	7.6 C	-0.230	-0.230
5.0	-3.0	7.2	-3.7	7.5	-0.230	-0.230
10.0	-2.9	7.1	-3.6	7.2	0.000	0.000
15.0	-2.6	6.7	-3.3	7.2	0.230	0.920
20.0	-2.6	6.7	-3.4	6.9	1.149	2.069
25.0	-2.3	6.5	-3.3	6.7	2.069	3.448
30.0	-2.1	6.5	-3.2	6.5	2.986	4.598
35.0	-2.1	6.3	-3.0	6.3	3.908	5.517
40.0	-2.0	6.0	-3.0	6.2	4.828	6.897
45.0	-2.0	6.0	-3.0	5.9	5.287	7.126
50.0	-2.1	5.6	-3.0	5.7	5.287	7.126
55.0	-2.4	5.2	-3.2	5.5	5.287	7.126
60.0	-2.5	5.2	-3.5	5.4	5.287	7.126
65.0	-2.5	5.2	-3.5	5.2	5.517	7.350
70.0	-2.5	5.2	-3.6	5.0	5.287	7.126
75.0	-2.5	4.9	-3.6	5.0	5.517	7.126
80.0	-2.5	4.8	-3.5	4.5	5.287	7.126
85.0	-2.4	4.8	-3.4	4.7	5.287	7.126
90.0	-2.4	4.8	-3.4	4.7	5.287	7.126
95.0	-2.4	4.8	-3.4	4.6	5.287	7.126
100.0	-2.4	4.7	-3.3	4.4	5.287	7.126
105.0	-2.2	4.6	-3.3	4.4	5.287	7.126
110.0	-2.3	4.5	-3.2	4.3	5.287	7.126
115.0	-2.2	4.4	-3.2	4.3	5.287	7.126
120.0	-2.0	4.3	-3.0	3.7	5.287	7.126
125.0	-2.1	4.1	-3.1	3.9	5.287	7.126
130.0	-2.1	3.9	-3.1	3.7	5.287	7.126
135.0	-2.1	3.9	-3.1	3.6	5.287	7.126
140.0	-2.1	3.8	-3.1	3.5	5.287	7.126
145.0	-2.1	3.7	-3.2	3.7	5.287	7.126
150.0	-2.1	3.8	-3.3	3.6	5.287	7.126
155.0	-2.1	3.7	-3.1	3.5	5.287	7.126
160.0	-2.1	3.5	-3.1	3.5	5.287	7.126
165.0	-2.0	3.5	-2.9	3.2	5.057	7.126
170.0	-1.9	3.4	-3.0	3.2	5.287	6.897
175.0	-1.9	3.3	-3.0	3.2	5.287	7.126
180.0	-1.8	3.2	-3.0	3.0	5.287	6.897
185.0	-1.9	3.1	-3.0	2.9	5.287	7.126
190.0	-1.9	3.1	-3.0	3.1	5.287	7.126
195.0	-1.9	3.0	-3.0	3.1	5.287	7.126
200.0	-2.0	2.9	-3.1	2.8	5.287	7.126
205.0	-2.0	2.9	-3.1	2.8	5.287	6.897
210.0	-1.9	2.8	-3.1	2.8	5.287	6.897
215.0	-1.9	2.7	-3.0	2.6	5.287	7.126
223.0	-2.0	2.6	-3.1	2.5	5.287	7.126
230.0	-2.0	2.7	-3.2	2.5	5.287	7.126
235.0	-2.0	2.6	-3.1	2.3	5.287	7.126
240.0	-2.0	2.5	-3.1	2.1	5.287	6.897
245.0	-2.0	2.4	-3.1	2.2	5.057	6.897
250.0	-2.0	2.3	-3.1	2.0	5.287	7.126
255.0	-1.9	2.3	-3.0	1.9	5.287	6.897
260.0	-1.8	2.2	-2.9	1.8	5.287	7.126
265.0	-1.9	2.2	-3.0	1.9	5.287	7.126
270.0	-1.9	2.1	-3.0	1.8	5.287	7.126
275.0	-2.0	2.2	-3.0	1.9	5.287	6.667
280.0	-2.0	2.0	-3.1	1.8	5.057	7.126
285.0	-1.9	1.9	-3.1	1.8	5.057	7.126
290.0	-1.9	1.7	-3.0	1.4	5.057	6.897
290.0	-1.9	1.7	-3.2	1.6	5.057	6.897

AFSS RUN #3 DAY 2118

Test Time	Ceiling		Floor		Plastic Walls			
(min)	East	West	East	West	N	S	E	W
0.0	3.8 C	5.5 C	7.7 C	7.9 C	7.6 C	7.4 C	7.3 C	7.3 C
5.0	3.4	5.4	7.6	7.8	7.4	7.3	7.4	7.2
10.0	3.3	5.3	7.4	7.6	7.2	7.2	7.1	7.1
15.0	3.1	5.2	7.3	7.4	7.1	7.1	6.9	7.1
20.0	2.8	4.9	6.9	7.1	6.9	6.9	6.7	6.9
25.0	2.6	4.8	6.8	6.9	6.6	6.7	6.4	6.6
30.0	2.5	4.6	6.6	6.4	6.4	6.6	6.4	6.4
35.0	2.3	4.4	6.4	6.2	6.3	6.4	6.2	6.3
40.0	2.3	4.3	6.4	6.1	6.1	6.3	5.9	6.2
45.0	2.4	4.1	6.5	6.0	5.9	5.9	5.7	6.1
50.0	2.4	3.9	6.4	5.9	5.6	5.7	5.3	5.8
55.0	2.2	3.8	6.3	5.8	5.3	5.6	5.2	5.6
60.0	2.2	3.8	6.3	5.6	5.2	5.4	5.1	5.6
65.0	2.1	3.8	6.2	5.7	5.1	5.3	5.0	5.4
70.0	1.9	3.7	6.1	5.4	5.0	5.2	4.9	5.3
75.0	1.7	3.6	6.3	5.4	4.8	5.1	4.6	5.3
80.0	1.7	3.5	6.0	5.2	4.7	4.9	4.5	5.1
85.0	1.7	3.4	5.9	5.3	4.7	4.9	4.6	5.1
90.0	1.2	3.3	5.9	5.3	4.7	4.9	4.6	4.9
95.0	1.1	3.0	5.8	5.1	4.6	4.8	4.5	4.9
100.0	1.1	2.8	5.7	5.1	4.5	4.7	4.4	4.7
105.0	0.9	2.8	5.8	5.1	4.4	4.7	4.3	4.7
110.0	0.5	2.6	5.7	4.8	4.4	4.6	4.3	4.6
115.0	0.4	2.5	5.7	4.8	4.3	4.5	4.2	4.6
120.0	0.4	2.3	5.7	4.8	4.2	4.3	3.9	4.4
125.0	0.8	2.3	5.5	4.8	3.9	4.1	3.7	4.2
130.0	0.6	2.3	5.4	4.6	3.8	4.0	3.7	4.2
135.0	0.6	2.3	5.3	4.5	3.7	4.0	3.6	4.1
140.0	0.3	2.2	4.2	4.5	3.7	3.9	3.4	4.1
145.0	0.4	2.2	4.0	4.7	3.6	3.9	3.5	4.0
150.0	0.0	2.1	4.2	4.8	3.7	3.9	3.6	4.0
155.0	-0.2	1.9	4.1	6.2	3.7	3.8	3.4	3.9
160.0	-0.5	1.7	4.1	6.2	3.6	3.7	3.6	3.8
165.0	-0.4	1.7	2.4	6.2	3.5	3.7	3.3	3.7
170.0	-0.6	1.4	2.3	6.2	3.3	3.5	3.2	3.6
175.0	-0.6	1.3	2.3	6.2	3.3	3.4	3.2	3.6
180.0	-0.7	1.2	2.4	6.2	3.2	3.4	3.1	3.4
185.0	-0.7	1.2	1.9	6.2	3.1	3.3	2.9	3.4
190.0	-0.9	1.2	2.2	6.1	3.1	3.3	3.0	3.4
195.0	-0.9	1.1	2.3	6.1	2.9	3.2	2.9	3.3
200.0	-1.0	0.9	2.1	6.0	2.9	3.1	2.8	3.2
205.0	-1.1	0.9	2.2	6.0	2.8	3.0	2.7	3.1
210.0	-1.2	0.9	1.9	5.9	2.8	2.9	2.7	3.1
215.0	-1.1	0.8	2.1	6.3	2.7	2.8	2.6	3.0
223.0	-1.1	0.9	1.8	6.3	2.6	2.7	2.4	2.9
230.0	-1.3	0.7	1.7	6.2	2.5	2.7	2.4	2.8
235.0	-1.5	0.6	2.9	6.2	2.4	2.7	2.3	2.7
240.0	-1.7	0.4	2.2	6.2	2.3	2.6	2.4	2.7
245.0	-1.5	0.4	2.1	6.1	2.3	2.5	2.3	2.6
250.0	-1.6	0.2	1.9	6.1	2.2	2.4	2.2	2.5
255.0	-1.6	0.2	2.1	6.1	2.1	2.3	2.0	2.4
260.0	-1.6	0.2	1.8	6.0	2.1	2.3	2.0	2.5
265.0	-1.6	0.4	2.0	5.9	2.1	2.2	2.0	2.4
270.0	-1.6	0.4	2.2	5.9	2.1	2.3	1.9	2.3
275.0	-1.7	0.2	2.1	5.9	1.9	2.2	2.0	2.3
280.0	-1.9	0.1	1.9	5.9	1.9	2.2	1.8	2.2
285.0	-2.0	-0.1	1.9	5.8	1.8	2.0	1.8	2.1
290.0	-2.2	-0.2	1.9	5.8	1.7	2.0	1.7	2.1
290.0	-2.2	-0.2	1.9	5.8	1.7	2.0	1.7	2.1

AFSS RUN #3 DAY 2118

Test Time (min)	Thermocouple Readout by Position SIDE A 1	2	3	4	5	6	7	8
0.0	7.7	7.7	7.7	7.6	7.4	7.6	7.7	7.7
5.0	7.6	7.6	7.6	7.5	7.3	7.5	7.6	7.6
10.0	7.1	6.8	5.9	5.1	6.8	6.8	6.9	5.3
15.0	5.7	4.7	1.4	-1.1	5.8	4.9	4.6	-0.1
20.0	3.7	1.6	-3.3	-7.8	4.1	1.9	0.9	-6.1
25.0	0.9	-1.9	-7.2	-10.3	2.2	-1.4	-2.5	-7.8
30.0	-1.9	-5.2	-11.1	-10.8	0.4	-5.1	-6.0	-8.2
35.0	-4.3	-7.9	-12.6	-10.8	-1.7	-7.7	-7.2	-6.5
40.0	-7.1	-11.4	-12.8	-11.1	-3.7	-11.5	-7.5	-8.3
45.0	-10.7	-13.8	-12.7	-10.7	-5.8	-12.4	-7.7	-8.4
50.0	-12.6	-14.1	-12.6	-10.3	-7.0	-12.4	-7.9	-8.6
55.0	-13.3	-14.5	-13.4	-11.6	-8.5	-13.0	-7.9	-8.8
60.0	-13.6	-14.7	-13.1	-11.2	-8.9	-13.1	-7.8	-8.6
65.0	-13.8	-14.7	-13.1	-10.7	-8.5	-13.4	-8.2	-8.6
70.0	-14.1	-14.7	-13.1	-11.5	-9.2	-13.3	-8.1	-8.8
75.0	-14.6	-14.7	-13.6	-11.9	-7.4	-12.8	-8.6	-9.5
80.0	-14.4	-15.0	-13.2	-11.3	-8.8	-13.4	-8.6	-8.9
85.0	-14.1	-15.3	-13.7	-12.2	-9.1	-13.3	-8.9	-9.7
90.0	-13.9	-15.2	-13.6	-11.9	-9.9	-13.4	-8.6	-9.4
95.0	-14.6	-15.1	-13.8	-12.2	-8.6	-13.4	-8.9	-9.7
100.0	-14.6	-15.2	-13.8	-12.2	-8.9	-13.3	-8.9	-9.9
105.0	-14.6	-15.6	-13.7	-10.9	-9.0	-13.6	-9.0	-9.7
110.0	-14.6	-15.8	-14.2	-12.2	-9.2	-13.6	-9.0	-9.9
115.0	-14.8	-15.6	-14.2	-12.1	-9.3	-13.8	-9.3	-9.9
120.0	-14.9	-15.7	-13.8	-11.7	-9.9	-13.9	-8.9	-9.6
125.0	-14.8	-15.9	-14.3	-12.6	-9.8	-14.6	-9.2	-9.9
130.0	-14.8	-16.2	-14.4	-12.3	-9.7	-14.7	-9.3	-10.3
135.0	-15.0	-16.3	-14.3	-12.4	-10.2	-14.4	-9.4	-10.1
140.0	-14.9	-16.6	-13.9	-11.2	-10.5	-14.6	-9.5	-9.7
145.0	-15.1	-16.4	-14.3	-12.2	-10.4	-14.5	-9.7	-10.3
150.0	-15.4	-16.4	-14.6	-12.7	-9.8	-14.2	-9.5	-10.5
155.0	-15.3	-16.4	-14.7	-12.8	-9.3	-14.6	-9.6	-10.4
160.0	-15.3	-16.6	-14.7	-12.7	-9.1	-14.6	-9.9	-10.7
165.0	-15.2	-16.4	-14.1	-11.7	-9.6	-14.1	-9.2	-9.7
170.0	-15.4	-16.8	-14.9	-12.9	-10.0	-15.1	-9.9	-10.6
175.0	-15.6	-16.9	-14.4	-11.9	-9.9	-14.6	-9.6	-10.6
180.0	-15.1	-16.7	-14.7	-12.3	-10.1	-15.2	-9.7	-10.6
185.0	-15.0	-17.4	-15.4	-13.2	-10.5	-15.4	-10.1	-11.1
190.0	-15.1	-17.6	-15.3	-13.3	-10.4	-15.1	-10.3	-11.1
195.0	-15.6	-17.8	-15.8	-13.1	-9.0	-15.2	-10.4	-10.8
200.0	-15.4	-17.7	-15.7	-13.4	-10.1	-15.5	-10.5	-10.9
205.0	-15.6	-17.8	-15.7	-13.2	-8.3	-15.4	-10.3	-11.3
210.0	-15.5	-18.0	-15.5	-13.3	-8.8	-15.4	-10.6	-11.6
215.0	-15.8	-18.0	-15.9	-13.2	-10.4	-15.6	-10.5	-11.3
223.0	-16.0	-18.3	-16.0	-13.6	-10.7	-16.0	-10.7	-11.3
230.0	-15.6	-18.5	-15.9	-13.3	-10.7	-15.9	-10.8	-11.6
235.0	-16.1	-18.7	-15.3	-13.0	-10.6	-15.9	-10.5	-11.4
240.0	-16.4	-18.7	-15.9	-13.4	-9.3	-15.9	-10.6	-11.5
245.0	-16.4	-18.8	-16.3	-13.8	-9.6	-16.3	-10.9	-11.7
250.0	-16.6	-19.1	-16.3	-13.9	-9.4	-16.4	-11.1	-11.9
255.0	-16.3	-19.5	-16.7	-13.4	-10.7	-16.3	-11.1	-11.4
260.0	-16.4	-19.6	-16.5	-13.8	-11.2	-16.2	-11.1	-11.7
265.0	-16.6	-19.6	-16.7	-13.8	-11.4	-16.2	-11.1	-12.0
270.0	-16.4	-19.4	-16.2	-13.0	-10.7	-15.8	-9.8	-10.8
275.0	-16.8	-19.7	-16.9	-13.8	-10.7	-16.5	-11.0	-11.8
280.0	-16.6	-19.9	-16.8	-14.0	-11.1	-16.5	-11.2	-12.3
285.0	-17.1	-20.2	-17.2	-14.0	-11.2	-16.6	-11.3	-11.9
290.0	-17.2	-20.7	-17.5	-13.3	-10.4	-17.1	-11.6	-12.4
290.0	-17.2	-20.7	-17.5	-13.3	-10.4	-17.1	-11.6	-12.4

AFSS RUN #3 DAY 2118

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	7.9	8.1	7.8	8.1	7.9	8.0	8.1	8.1
5.0	7.8	7.9	7.7	7.9	7.8	7.9	7.9	7.9
10.0	7.5	7.6	7.5	6.5	7.6	7.5	7.2	6.6
15.0	6.8	6.1	7.2	2.6	6.8	6.3	4.8	2.9
20.0	5.6	3.6	6.2	-2.4	5.5	4.3	1.6	-1.7
25.0	3.9	0.4	5.3	-5.2	3.8	2.1	-1.6	-4.8
30.0	2.2	-2.6	4.5	-5.6	2.0	-0.7	-4.6	-5.8
35.0	0.4	-5.1	3.8	-5.8	0.1	-2.8	-6.7	-6.2
40.0	-1.1	-7.8	3.5	-5.8	-1.8	-5.6	-7.3	-6.4
45.0	-3.5	-9.4	3.5	-6.2	-4.3	-8.3	-7.6	-6.2
50.0	-5.3	-9.9	3.3	-6.5	-6.4	-9.0	-7.8	-6.6
55.0	-6.1	-10.2	2.9	-6.6	-7.9	-9.4	-8.0	-6.8
60.0	-6.6	-10.2	-8.2	-6.7	-8.5	-9.6	-8.0	-6.9
65.0	-6.6	-10.3	-8.2	-6.7	-8.7	-9.7	-8.2	-6.9
70.0	-6.8	-10.2	-8.4	-6.7	-9.2	-9.7	-8.3	-7.0
75.0	-6.4	-10.2	-8.4	-6.9	-8.9	-9.8	-8.2	-7.2
80.0	-6.6	-10.4	-8.5	-7.1	-9.0	-9.8	-8.4	-7.4
85.0	-6.7	-10.2	-8.4	-6.7	-9.2	-9.9	-8.5	-7.3
90.0	-6.8	-10.6	-8.7	-6.9	-9.2	-10.1	-8.4	-7.3
95.0	-7.0	-10.6	-8.7	-7.3	-9.2	-9.9	-8.4	-7.3
100.0	-7.2	-10.8	-8.8	-7.3	-9.4	-10.2	-8.4	-7.5
105.0	-7.3	-10.7	-8.9	-7.2	-9.6	-10.2	-8.4	-7.5
110.0	-6.8	-10.4	-8.9	-7.2	-9.3	-10.2	-8.6	-7.5
115.0	-7.3	-10.8	-9.1	-7.5	-9.3	-10.4	-8.6	-7.7
120.0	-7.2	-10.5	-9.1	-7.4	-9.3	-10.3	-8.9	-7.7
125.0	-7.3	-11.1	-9.1	-7.7	-9.7	-10.4	-8.9	-7.8
130.0	-7.5	-11.1	-9.3	-7.9	-9.8	-10.5	-9.0	-8.0
135.0	-8.3	-11.4	-9.6	-8.0	-10.3	-10.8	-8.9	-8.2
140.0	-8.2	-11.3	-9.4	-7.8	-10.3	-10.8	-9.2	-8.1
145.0	-7.7	-11.1	-8.9	-7.3	-10.2	-10.6	-8.6	-7.6
150.0	-7.4	-10.9	-8.8	-7.1	-9.6	-10.4	-8.3	-7.1
155.0	-7.3	-11.2	-9.7	-7.9	-9.7	-10.5	-9.1	-8.0
160.0	-6.9	-10.7	-9.2	-7.4	-9.3	-10.4	-8.8	-7.9
165.0	-7.3	-11.2	-9.6	-7.9	-9.7	-10.8	-9.6	-8.2
170.0	-7.4	-11.5	-9.7	-8.2	-9.9	-10.9	-9.5	-8.4
175.0	-8.1	-11.9	-10.0	-8.3	-10.4	-11.1	-9.6	-8.6
180.0	-7.9	-11.8	-10.0	-8.6	-10.4	-11.1	-9.8	-8.7
185.0	-7.9	-12.1	-10.3	-8.7	-10.4	-11.3	-9.7	-8.7
190.0	-8.0	-12.0	-9.9	-8.6	-10.2	-11.1	-9.5	-8.6
195.0	-7.7	-11.9	-10.1	-8.7	-10.1	-11.3	-9.6	-8.9
200.0	-7.8	-12.2	-10.3	-8.7	-9.9	-11.4	-9.8	-8.7
205.0	-8.2	-12.1	-10.4	-9.0	-10.3	-11.5	-10.0	-8.9
210.0	-8.2	-12.2	-10.6	-9.0	-10.6	-11.4	-9.9	-9.1
215.0	-8.1	-12.5	-10.3	-8.7	-10.4	-11.6	-9.7	-8.7
223.0	-8.2	-12.4	-10.7	-9.1	-10.6	-11.8	-10.3	-9.3
230.0	-8.2	-12.7	-10.8	-9.3	-10.6	-11.8	-10.2	-9.3
235.0	-8.3	-12.7	-10.9	-9.4	-10.7	-12.1	-10.6	-9.4
240.0	-8.3	-12.8	-10.8	-8.4	-10.5	-11.8	-10.4	-9.2
245.0	-8.4	-12.8	-11.0	-9.4	-10.9	-12.0	-10.5	-9.3
250.0	-8.4	-12.9	-10.9	-9.3	-11.1	-12.0	-10.6	-9.4
255.0	-8.9	-13.0	-10.9	-9.4	-11.2	-12.2	-10.4	-9.6
260.0	-8.4	-12.9	-11.2	-9.6	-10.9	-12.3	-10.8	-9.6
265.0	-8.8	-13.2	-11.2	-9.7	-11.4	-12.4	-10.8	-9.7
270.0	-8.7	-13.2	-11.3	-9.8	-11.3	-12.3	-10.8	-9.7
275.0	-8.8	-13.1	-11.2	-9.7	-11.2	-12.3	-10.8	-9.7
280.0	-8.6	-13.1	-11.3	-9.7	-10.9	-12.2	-10.8	-9.6
285.0	-8.7	-13.2	-11.3	-9.9	-10.8	-12.3	-10.5	-8.4
290.0	-8.6	-13.1	-11.4	-10.1	-10.8	-12.3	-10.6	-9.6
290.0	-8.6	-13.1	-11.4	-10.1	-10.8	-12.3	-10.6	-9.6

AFSS RUN # 3 DAY 2119

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 7.7	7.2	7.2	7.2
7.7	7.2	7.2	7.2
7.7	7.2	7.2	7.2
7.7	7.2	7.2	7.2
7.8	7.2	7.2	7.2
7.8	7.2	6.6	7.2
7.8	7.2	6.1	6.6
7.8	7.2	4.5	5.5
7.8	7.2	3.3	4.4
7.8	7.2	-2.7	-0.5

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 7.3	7.2	5.1	5.1
7.4	7.2	5.0	4.9
7.4	7.2	4.4	4.4
7.4	7.2	3.8	4.4
7.5	7.2	3.6	3.3
7.5	7.2	1.5	1.6
7.5	7.2	0.0	1.5
7.5	7.2	-1.9	-1.2
7.4	7.2	-7.2	-6.1
7.4	7.2	9.4	-8.0

AFSS RUN # 3 DAY 2119

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 6.8	6.1	-10.6	-10.5
6.9	6.1	-6.5	-6.1
6.9	6.1	-7.9	-7.7
6.9	6.1	-9.6	-9.4
7.1	6.1	-11.6	-11.6
7.1	6.1	-14.7	-15.7
7.0	6.1	-16.6	-17.7
7.0	6.0	-17.7	-18.7
7.0	6.1	-16.3	-16.6
6.9	6.1	-14.4	-16.1

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 6.3	5.5	-6.6	-6.2
6.4	5.2	-9.4	-8.3
6.4	5.2	-10.3	-9.4
6.5	5.5	-11.5	-10.3
6.6	5.5	-11.6	-10.5
6.6	5.5	-11.6	-11.1
6.5	5.5	-10.6	-11.6
6.5	5.5	-11.6	-11.6
6.4	5.5	-12.2	-11.6
6.4	5.5	-12.7	-10.5

AFSS RUN # 3 DAY 2119

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	5.8	4.0	-28.8	-27.2
	5.9	4.1	-21.6	-18.3
	5.9	4.4	-20.3	-20.0
	5.9	4.4	-20.0	-20.0
	6.0	4.4	-20.1	-20.5
	6.0	4.4	-20.0	-20.5
	5.9	4.4	-20.0	-19.4
	5.9	4.4	-20.5	-20.5
	5.9	4.4	-18.8	-19.4
	5.9	4.4	-18.6	-18.3

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	5.4	3.3	-12.6	-12.2
	5.5	3.3	-13.8	-13.3
	5.5	3.3	-13.8	-13.6
	5.6	3.3	-13.8	-13.8
	5.6	3.3	-13.8	-13.3
	5.6	3.3	-14.4	-13.7
	5.6	3.3	-13.8	-13.6
	5.6	3.3	-14.3	-14.6
	5.5	3.3	-15.0	-14.0
	5.4	3.3	-14.4	-13.3

AFSS RUN # 3 DAY 2119

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	5.1	2.7	-31.1	-28.8
	5.2	2.7	-21.6	-19.4
	5.2	2.7	-21.6	-20.5
	5.2	2.7	-21.6	-20.5
	5.3	3.0	-22.2	-21.6
	5.3	2.7	-21.6	-21.6
	5.2	2.7	-20.5	-20.0
	5.2	2.7	-20.5	-20.5
	5.2	2.7	-20.0	-20.0
	5.1	2.7	-20.0	-20.0

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	4.8	2.7	-13.8	-12.2
	4.9	2.7	-13.8	-13.8
	4.9	2.7	-13.8	-13.3
	4.9	2.7	-13.8	-13.8
	5.0	2.7	-14.4	-13.3
	5.0	2.7	-14.4	-12.7
	5.0	2.7	-13.8	-13.8
	5.0	2.7	-14.4	-13.8
	4.9	2.7	-15.0	-13.8
	4.9	2.7	-13.8	-13.3

AFSS RUN # 3 DAY 2119

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 4.6	2.7	-31.7	-31.1
4.6	2.7	-22.7	-20.5
4.7	2.7	-22.7	-22.2
4.7	2.7	-22.7	-22.7
4.8	2.7	-22.7	-22.7
4.8	2.7	-22.7	-22.7
4.7	2.7	-20.5	-20.0
4.7	2.7	-20.0	-20.5
4.7	2.7	-19.4	-19.4
4.6	2.7	-19.4	-19.4

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 4.2	2.7	-12.7	-12.7
4.3	2.7	-13.7	-13.8
4.3	2.7	-14.4	-14.4
4.4	2.7	-15.5	-14.4
4.4	2.7	-14.4	-14.4
4.4	2.7	-14.4	-14.4
4.4	2.7	-14.4	-13.4
4.4	2.7	-14.4	-13.8
4.3	2.7	-15.0	-13.3
4.3	3.3	-13.8	-12.2

AFSS RUN # 3 DAY 2119

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	4.0	2.7	-30.0	-27.7
	4.1	2.7	-21.6	-18.8
	4.2	2.7	-21.5	-20.5
	4.2	2.7	-21.1	-20.0
	4.2	2.7	-21.6	-21.1
	4.2	2.7	-20.5	-20.0
	4.2	2.7	-19.4	-19.2
	4.3	3.8	-18.8	-19.4
	4.3	3.8	-18.8	-18.8
	4.2	3.8	-18.8	-19.4

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	3.8	2.7	-11.6	-12.7
	3.9	2.7	-12.7	-13.8
	3.9	2.7	-13.8	-12.7
	4.0	2.7	-13.3	-13.3
	4.1	2.7	-14.4	-12.7
	4.1	2.7	-13.8	-12.7
	4.1	2.7	-13.3	-12.7
	4.1	2.7	-12.7	-12.7
	4.1	3.8	-13.8	-12.2
	4.1	2.7	-13.8	-12.2

AFSS RUN # 3 DAY 2119

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	3.5	2.2	-30.0	-27.2
	3.6	2.7	-20.8	-19.7
	3.7	2.7	-23.1	-20.5
	3.7	3.3	-22.7	-21.1
	3.8	2.7	-22.7	-22.7
	3.8	2.7	-21.6	-21.1
	3.8	2.5	-21.5	-20.5
	3.8	2.8	-21.1	-20.8
	3.7	2.7	-21.8	-20.5
	3.7	2.7	-18.3	-19.6

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	3.3	2.2	-12.2	-11.6
	3.4	2.2	-13.8	-13.3
	3.4	2.2	-13.8	-13.5
	3.5	2.2	-14.4	-13.7
	3.6	2.2	-13.8	-13.8
	3.6	2.2	-13.8	-14.4
	3.6	2.2	-13.8	-13.8
	3.6	2.2	-14.4	-14.6
	3.5	2.2	-15.2	-14.4
	3.4	2.7	-14.4	-13.8

AFSS RUN # 3 DAY 2119

TEST TIME 210.0 MINS

SIDE A

	Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	3.1	1.7	-31.1	-27.7
	3.2	1.6	-21.6	-20.3
	3.2	1.6	-22.6	-21.6
	3.3	1.6	-21.7	-21.5
	3.4	1.6	-23.8	-22.7
	3.4	1.7	-22.3	-21.7
	3.3	1.7	-21.3	-20.5
	3.3	1.7	-21.6	-21.6
	3.3	1.6	-21.6	-20.5
	3.2	1.8	-18.2	-19.4

TEST TIME 225.0 MINS

SIDE B

	Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	2.8	0.5	-13.3	-13.5
	2.9	1.1	-14.4	-15.0
	3.0	1.1	-14.6	-16.1
	3.0	1.1	-15.5	-15.0
	3.1	1.1	-15.5	-14.2
	3.1	1.1	-16.1	-15.5
	3.1	1.6	-15.5	-15.5
	3.1	1.1	-15.5	-14.6
	3.0	1.1	-15.7	-14.6
	2.9	1.1	-15.5	-14.4

AFSS RUN # 3 DAY 2119

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 2.7	0.6	-33.8	-28.8
2.8	1.5	-23.6	-20.5
2.8	1.6	-25.5	-23.3
2.9	1.6	-22.7	-21.6
2.9	1.6	-27.2	-25.6
3.0	-0.5	-25.0	-23.3
2.9	1.5	-24.4	-21.9
2.9	1.6	-23.2	-23.3
2.9	1.6	-21.8	-22.7
2.9	1.1	-22.5	-21.7

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 2.5	0.7	-12.7	-13.7
2.6	1.1	-15.0	-15.5
2.7	1.6	-15.0	-15.0
2.7	1.1	-16.0	-15.0
2.8	1.1	-15.6	-14.1
2.8	1.1	-15.4	-15.5
2.8	1.1	-15.4	-15.0
2.7	1.1	-15.5	-15.5
2.7	1.2	-15.0	-15.0
2.6	1.6	-15.4	-14.0

AFSS RUN # 3 DAY 2119

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	2.3	0.0	-33.8	-31.1
	2.4	0.0	-25.5	-23.3
	2.5	0.0	-26.1	-24.4
	2.6	0.5	-25.5	-23.8
	2.6	0.0	-26.1	-25.0
	2.7	0.0	-25.5	-24.4
	2.6	0.0	-24.4	-23.3
	2.7	0.0	-23.8	-23.8
	2.6	0.5	-22.7	-22.2
	2.6	0.5	-23.3	-20.5

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	2.1	0.0	-15.5	-15.0
	2.2	0.0	-16.1	-15.5
	2.3	0.0	-16.6	-16.1
	2.3	0.0	-16.6	-16.1
	2.4	0.0	-16.6	-15.0
	2.4	0.0	-17.2	-16.6
	2.4	0.0	-17.2	-15.5
	2.4	-0.5	-17.2	-15.0
	2.4	0.0	-17.7	-15.5
	2.3	0.0	-16.6	-15.5

AFSS RUN #4 DAY 2126

Test Time (min)	4 Meter Dewcell Dew point	4 Meter Dewcell Temp	1 Meter Dewcell Dew point	1 Meter Dewcell Temp	Radiometers mW/cm 2 West	Radiometers mW/cm 2 East
0.0	6.6 C	13.2 C	5.4 C	12.9 C	-0.230	-0.460
4.0	6.7	13.2	5.4	12.8	-0.230	-0.460
9.0	6.7	12.8	5.4	12.8	-0.230	-0.230
14.0	6.6	12.7	5.4	12.0	0.000	0.230
19.0	6.6	12.6	5.2	12.3	0.690	1.379
24.0	6.5	12.3	5.3	12.5	1.609	2.759
29.0	6.5	12.4	5.3	12.0	2.759	4.828
34.0	6.5	12.1	5.2	11.9	4.828	6.897
39.0	6.5	11.6	5.3	11.7	5.287	7.126
44.0	6.5	11.6	5.1	11.7	5.287	6.897
49.0	6.5	11.5	5.2	11.3	5.287	7.126
54.0	6.6	11.4	5.3	11.2	5.287	7.126
59.0	6.5	11.4	5.2	11.3	5.517	7.126
64.0	6.5	11.1	5.2	10.9	5.517	7.126
69.0	6.5	11.2	5.1	11.1	5.287	7.126
74.0	6.5	11.1	5.1	11.1	5.517	7.126
79.0	6.4	11.1	5.1	10.9	5.287	7.126
84.0	6.5	10.9	5.1	10.8	5.287	7.126
89.0	6.5	11.0	5.2	10.7	5.287	7.356
94.0	6.5	10.9	5.1	10.8	5.287	7.126
99.0	6.5	10.8	5.0	10.6	5.287	7.126
104.0	6.4	10.6	5.3	10.2	5.287	7.126
109.0	6.5	10.6	5.1	10.4	5.287	7.126
114.0	6.5	10.5	5.1	10.4	5.287	7.126
119.0	6.5	10.5	5.2	10.4	5.287	7.126
124.0	6.4	10.5	5.0	10.4	5.287	6.897
129.0	6.3	10.4	5.0	10.2	5.057	7.126
134.0	6.4	10.2	4.9	10.1	5.287	7.126
139.0	6.4	10.2	5.0	10.1	5.287	7.126
144.0	6.4	10.1	5.3	10.0	5.057	7.126
149.0	6.4	10.0	5.0	10.0	5.287	7.126
154.0	6.4	9.8	5.1	9.7	5.057	7.356
159.0	6.3	9.6	5.2	9.4	5.287	7.126
164.0	6.3	9.5	5.1	9.5	5.287	7.356
169.0	6.3	9.7	4.9	9.6	5.287	7.356
174.0	6.3	9.6	5.0	9.7	5.057	7.356
179.0	6.3	9.6	5.0	9.5	5.287	7.126
184.0	6.4	9.6	5.0	9.6	5.287	7.126
189.0	6.3	9.4	4.8	9.6	5.057	7.356
194.0	6.2	9.4	4.8	9.5	5.057	7.126
199.0	6.2	9.4	4.9	9.4	5.057	7.126
204.0	6.2	9.4	4.9	9.3	5.057	7.126
209.0	6.2	9.3	4.9	9.3	5.287	7.126
214.0	6.2	9.4	4.8	9.2	5.057	7.356
219.0	6.1	9.4	4.7	9.2	5.287	7.126
224.0	6.1	9.4	4.9	9.1	5.057	7.126
229.0	6.1	9.2	4.8	9.2	5.057	7.126
234.0	6.1	9.2	4.8	9.2	5.057	7.126
239.0	6.0	9.3	4.7	9.2	5.057	7.126
244.0	6.0	9.3	4.6	9.3	5.287	7.356
249.0	5.9	9.3	4.5	9.2	5.287	7.126
254.0	5.6	9.4	4.4	9.3	5.287	7.356
259.0	5.3	9.7	4.0	9.4	5.287	7.356
264.0	4.3	9.3	3.6	9.5	5.287	7.356
269.0	4.6	9.4	3.2	9.4	5.287	7.586
274.0	4.4	9.6	3.2	9.4	5.287	7.356
279.0	4.3	9.6	3.1	9.5	5.287	7.356
284.0	3.6	9.4	2.6	9.5	5.517	7.586
289.0	2.9	8.6	1.7	9.7	5.517	7.816

AFSS RUN #4 DAY 2126

Test Time (min)	Ceiling East	Ceiling West	Floor East	Floor West	Plastic Walls N	Plastic Walls S	Plastic Walls E	Plastic Walls W
0.0	9999C9	9999C9	9999C9	9999C9	9999C9	9999C9	9999C9	9999C9
4.0	9999.9	9999.9	9999.9	9999.9	9999.9	9999.9	9999.9	9999.9
9.0	9999.9	9999.9	9999.9	9999.9	9999.9	9999.9	9999.9	9999.9
14.0	10.1	11.5	11.9	12.1	12.6	12.6	11.9	12.2
19.0	10.1	11.4	12.1	12.2	12.4	12.4	12.1	12.2
24.0	9.6	11.2	11.8	12.0	12.3	12.4	11.8	12.1
29.0	9.6	11.0	11.7	11.9	12.2	12.3	11.7	11.9
34.0	9.3	10.8	11.4	11.8	12.0	12.1	11.5	11.8
39.0	9.2	10.5	11.6	11.6	11.7	11.9	11.3	11.6
44.0	9.0	10.6	11.6	11.6	11.6	11.8	11.3	11.5
49.0	8.7	10.3	11.1	11.1	11.4	11.6	10.8	11.2
54.0	8.9	10.2	11.1	11.1	11.2	11.3	10.9	11.1
59.0	8.7	10.2	11.1	11.1	11.2	11.4	10.8	11.1
64.0	8.8	10.0	11.2	11.0	11.0	11.2	10.8	11.0
69.0	8.8	10.1	10.8	11.0	10.9	11.2	10.9	11.0
74.0	8.3	9.9	10.8	11.0	11.0	11.2	10.8	11.1
79.0	8.2	9.8	10.8	10.8	10.9	11.1	10.7	10.8
84.0	8.2	9.7	10.8	10.6	10.8	11.1	10.4	10.7
89.0	8.3	9.7	10.6	10.7	10.8	10.9	10.7	10.7
94.0	8.2	9.8	10.6	10.7	10.8	10.9	10.6	10.7
99.0	8.1	9.6	10.7	10.7	10.8	10.9	10.4	10.7
104.0	8.0	9.5	10.6	10.4	10.7	10.8	10.2	10.5
109.0	8.0	9.4	10.3	10.4	10.6	10.7	10.2	10.4
114.0	8.1	9.4	10.6	10.3	10.5	10.7	10.2	10.3
119.0	8.1	9.5	10.3	10.3	10.4	10.6	10.4	10.3
124.0	7.8	9.4	10.5	10.3	10.4	10.6	10.2	10.3
129.0	7.8	9.3	10.3	10.3	10.3	10.6	10.1	10.3
134.0	7.7	9.2	10.3	10.1	10.2	10.4	9.9	10.1
139.0	7.5	9.1	10.1	10.0	10.1	10.3	9.9	10.0
144.0	7.6	9.0	10.2	9.9	10.1	10.3	9.7	9.9
149.0	7.8	9.1	9.9	9.9	10.0	10.2	9.9	9.9
154.0	7.7	8.9	10.1	9.8	9.9	10.1	9.7	9.8
159.0	7.7	8.8	9.9	9.6	9.7	9.9	9.3	9.6
164.0	7.6	8.8	9.9	9.4	9.5	9.7	9.3	9.4
169.0	7.4	8.8	9.8	9.5	9.6	9.8	9.4	9.5
174.0	7.4	8.8	9.8	9.6	9.6	9.9	9.6	9.6
179.0	7.2	8.6	9.9	9.2	9.6	9.8	9.3	9.3
184.0	7.2	8.6	9.8	9.2	9.4	9.7	9.7	9.3
189.0	7.1	8.5	9.8	9.4	9.4	9.7	9.6	9.4
194.0	7.0	8.4	9.7	9.3	9.4	9.7	9.2	9.3
199.0	7.1	8.4	9.6	9.2	9.4	9.6	9.1	9.2
204.0	6.9	8.4	9.4	9.2	9.3	9.5	9.1	9.2
209.0	6.8	8.3	9.4	9.3	9.2	9.5	9.2	9.2
214.0	6.8	8.3	9.4	9.2	9.2	9.4	9.3	9.2
219.0	6.8	8.3	9.4	9.1	9.1	9.4	9.2	9.1
224.0	7.0	8.3	9.6	8.9	9.1	9.3	8.9	9.0
229.0	7.0	8.3	9.4	9.0	9.1	9.3	8.9	9.0
234.0	6.9	8.3	9.3	9.0	9.1	9.3	8.9	9.0
239.0	7.0	8.3	9.6	9.0	9.2	9.4	9.1	9.0
244.0	6.8	8.3	9.3	9.1	9.1	9.4	9.5	9.1
249.0	7.2	8.3	9.5	9.1	9.1	9.3	9.1	9.1
254.0	7.3	8.4	9.4	9.2	9.1	9.4	9.2	9.2
259.0	7.2	8.4	9.3	9.2	9.2	9.4	9.2	9.2
264.0	7.4	8.4	9.7	9.3	9.2	9.4	9.4	9.3
269.0	7.3	8.3	9.3	9.3	9.2	9.4	9.3	9.3
274.0	7.6	8.4	9.2	9.3	9.2	9.4	9.3	9.3
279.0	7.4	8.4	9.4	9.3	9.2	9.5	9.3	9.3
284.0	8.3	8.5	9.7	9.4	9.3	9.6	9.6	9.4
289.0	9.1	8.8	9.6	9.5	9.4	9.7	9.8	9.4

AFSS RUN #4 DAY 2126

Test Time (min)	Thermocouple Readout by Position SIDE A 1	2	3	4	5	6	7	8
0.0	12.9	12.9	12.8	12.4	12.6	12.8	12.7	12.3
4.0	12.8	12.9	12.8	12.5	12.6	12.8	12.6	12.4
9.0	12.7	12.6	12.2	11.9	12.4	12.6	12.4	11.7
14.0	11.7	11.1	8.9	7.3	11.5	10.9	10.5	6.3
19.0	10.1	8.7	4.0	-2.1	10.2	8.3	7.0	-1.3
24.0	7.9	5.7	-2.1	-3.9	8.6	4.6	2.4	-1.8
29.0	5.3	1.8	-6.8	-5.2	6.4	0.2	-1.3	-2.7
34.0	1.6	-5.1	-6.7	-5.0	3.7	-6.8	-1.7	-2.8
39.0	-4.2	-7.6	-6.2	-3.6	-1.3	-7.8	-1.6	-1.8
44.0	-6.6	-7.5	-6.3	-4.0	-2.8	-7.8	-1.6	-2.7
49.0	-7.8	-7.6	-6.6	-4.8	-3.3	-7.4	-2.2	-2.8
54.0	-7.5	-7.8	-7.0	-5.5	-2.9	-8.0	-2.2	-3.1
59.0	-7.4	-7.9	-7.3	-5.6	-2.9	-7.7	-2.3	-3.2
64.0	-7.5	-8.4	-7.2	-5.6	-3.6	-8.4	-2.9	-3.2
69.0	-7.1	-8.5	-7.2	-5.8	-3.1	-7.7	-2.3	-3.3
74.0	-7.8	-8.2	-6.7	-5.6	-4.1	-7.5	-2.4	-3.4
79.0	-7.9	-8.6	-7.3	-5.9	-2.6	-8.4	-2.6	-3.7
84.0	-8.3	-9.1	-7.3	-5.2	-3.6	-8.0	-2.5	-2.6
89.0	-8.1	-9.0	-7.4	-5.6	-2.9	-8.1	-2.9	-3.7
94.0	-7.9	-9.2	-7.7	-5.2	-3.4	-8.6	-2.7	-3.3
99.0	-8.3	-8.9	-7.4	-5.4	-3.5	-8.5	-2.7	-3.7
104.0	-8.3	-9.6	-7.8	-5.8	-3.9	-8.7	-2.9	-3.6
109.0	-7.8	-9.6	-8.3	-6.1	-3.2	-8.8	-3.1	-4.0
114.0	-8.3	-9.6	-8.1	-5.5	-3.7	-8.8	-2.9	-3.3
119.0	-7.9	-9.8	-8.2	-6.1	-3.1	-8.9	-3.3	-3.9
124.0	-8.2	-9.4	-7.1	-4.3	-3.3	-8.2	-2.0	-3.2
129.0	-7.9	-9.9	-7.8	-5.2	-3.7	-9.4	-2.7	-3.6
134.0	-8.1	-10.3	-8.3	-5.6	-3.7	-9.4	-3.2	-3.6
139.0	-8.4	-10.4	-8.3	-5.3	-3.4	-9.4	-3.4	-4.1
144.0	-8.1	-10.6	-7.7	-4.4	-3.6	-9.3	-2.4	-3.2
149.0	-8.0	-10.7	-8.7	-6.1	-3.6	-9.4	-3.4	-4.3
154.0	-8.2	-11.4	-9.1	-6.1	-3.7	-10.1	-3.6	-4.0
159.0	-8.7	-11.6	-8.8	-5.4	-3.8	-10.0	-3.1	-3.6
164.0	-8.3	-11.8	-9.4	-6.2	-3.8	-10.3	-3.6	-4.2
169.0	-8.6	-12.1	-9.5	-6.2	-3.7	-10.0	-3.5	-4.3
174.0	-8.6	-12.4	-9.9	-6.6	-3.6	-10.3	-3.9	-4.7
179.0	-8.8	-12.2	-9.4	-6.3	-3.9	-10.4	-3.7	-4.6
184.0	-8.6	-12.4	-9.9	-6.7	-3.3	-10.6	-3.9	-4.8
189.0	-8.7	-12.4	-9.8	-6.6	-3.7	-10.7	-3.8	-5.1
194.0	-9.3	-12.2	-9.4	-5.3	-4.2	-10.1	-2.8	-3.6
199.0	-9.0	-12.8	-9.6	-6.2	-4.1	-10.8	-3.7	-4.4
204.0	-9.0	-12.8	-10.5	-6.7	-2.8	-11.1	-4.1	-5.2
209.0	-9.2	-13.2	-10.8	-7.1	-4.1	-11.2	-4.2	-5.1
214.0	-9.9	-13.4	-10.9	-6.8	-4.6	-10.8	-4.1	-5.1
219.0	-10.6	-13.2	-10.8	-7.0	-4.1	-11.0	-4.0	-5.2
224.0	-10.6	-13.4	-10.9	-6.6	-4.8	-11.1	-4.3	-5.1
229.0	-10.4	-13.4	-10.7	-6.7	-4.9	-11.1	-4.2	-5.5
234.0	-10.7	-13.7	-11.2	-7.2	-4.2	-11.3	-4.2	-5.3
239.0	-10.7	-13.4	-10.8	-5.6	-5.6	-11.3	-3.9	-4.6
244.0	-11.0	-13.8	-11.4	-6.7	-5.4	-11.9	-4.3	-5.4
249.0	-11.2	-14.0	-11.6	-6.9	-5.1	-11.5	-4.7	-5.5
254.0	-10.8	-14.3	-11.7	-6.9	-5.1	-11.8	-4.5	-5.6
259.0	-10.8	-14.4	-11.7	-6.9	-5.1	-11.7	-4.2	-5.2
264.0	-10.8	-14.2	-11.4	-7.1	-5.9	-12.2	-4.7	-5.6
269.0	-10.3	-14.4	-11.7	-7.0	-6.1	-12.3	-5.0	-5.6
274.0	-10.3	-14.9	-12.1	-7.2	-5.8	-12.3	-4.9	-5.9
279.0	-10.6	-14.7	-11.8	-7.2	-5.6	-12.1	-4.9	-5.8
284.0	-11.3	-14.7	-12.0	-7.1	-6.5	-12.6	-5.1	-5.6
289.0	-12.6	-15.2	-12.1	-7.7	-6.8	-13.0	-5.5	-6.3

AFSS RUN #4 DAY 212S

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	13.4	13.5	13.4	13.2	13.4	13.5	13.4	13.3
4.0	13.3	13.4	13.3	13.1	13.4	13.4	13.3	13.2
9.0	13.1	13.2	13.0	12.6	13.2	13.2	13.0	12.8
14.0	12.6	12.2	11.1	9.3	12.7	12.4	11.3	10.1
19.0	11.6	10.1	7.5	2.4	11.8	10.8	8.4	4.0
24.0	10.2	7.5	2.9	0.9	10.4	8.9	5.0	1.1
29.0	8.6	3.9	-0.6	-0.1	8.7	6.2	0.4	-0.2
34.0	6.4	-1.1	-1.3	0.2	6.6	1.9	-0.9	-0.4
39.0	2.7	-3.1	-1.8	-0.5	3.6	-1.9	-1.6	-0.4
44.0	0.2	-3.5	-1.7	-0.6	-0.7	-2.7	-1.7	-0.7
49.0	-0.9	-3.8	-2.1	-0.8	-2.3	-3.2	-1.7	-0.8
54.0	-0.7	-4.1	-2.2	-0.7	-2.7	-3.4	-1.8	-0.8
59.0	-0.3	-3.9	-1.9	-0.7	-2.3	-3.3	-1.9	-0.8
64.0	-0.7	-3.9	-2.1	-0.7	-2.7	-3.4	-2.0	-0.7
69.0	0.1	-3.9	-1.9	-0.7	-2.3	-3.3	-1.7	-0.7
74.0	-1.7	-4.2	-2.1	-0.7	-3.2	-3.6	-2.3	-1.1
79.0	-0.3	-2.9	-2.1	-0.9	-2.8	-3.4	-2.1	-1.2
84.0	-1.3	-3.8	-2.3	-1.0	-3.4	-3.6	-2.1	-1.1
89.0	-0.9	-4.3	-2.4	-1.2	-3.3	-3.5	-2.2	-1.2
94.0	-0.3	-4.0	-2.2	-0.7	-2.6	-3.4	-1.7	-0.9
99.0	-1.1	-4.1	-2.3	-1.1	-2.9	-3.6	-1.7	-1.2
104.0	-0.8	-4.1	-2.5	-1.2	-3.0	-3.6	-2.0	-1.1
109.0	-0.9	-4.2	-2.7	-1.2	-2.7	-3.6	-2.1	-1.4
114.0	-1.3	-4.4	-2.8	-1.7	-3.2	-3.6	-2.2	-1.4
119.0	-0.8	-4.3	-2.7	-1.4	-2.8	-3.6	-2.2	-1.4
124.0	-0.9	-4.5	-2.8	-1.3	-2.7	-3.7	-1.8	-1.2
129.0	-1.2	-4.2	-2.0	-0.3	-2.8	-3.4	-1.4	-0.7
134.0	-1.3	-4.8	-3.0	-1.7	-3.1	-3.9	-2.4	-1.4
139.0	-0.9	-4.4	-2.9	-1.7	-2.8	-3.7	-2.5	-1.6
144.0	-1.1	-4.7	-3.2	-2.1	-2.9	-3.9	-2.6	-1.7
149.0	-1.1	-5.0	-3.1	-1.8	-3.1	-4.1	-2.5	-1.8
154.0	-0.9	-4.5	-2.3	-1.2	-3.1	-3.9	-1.6	-1.4
159.0	-1.1	-5.1	-3.3	-2.0	-2.8	-4.2	-2.7	-1.8
164.0	-1.2	-5.3	-3.6	-2.3	-3.0	-4.2	-3.1	-2.1
169.0	-0.6	-5.1	-3.4	-2.3	-2.7	-4.0	-2.9	-2.1
174.0	-0.8	-5.0	-3.2	-1.9	-2.8	-4.2	-2.8	-1.8
179.0	-1.1	-5.2	-3.6	-2.5	-2.9	-4.3	-3.0	-2.2
184.0	-0.8	-5.4	-3.8	-2.4	-2.7	-4.3	-2.9	-2.3
189.0	-1.1	-5.2	-3.8	-2.4	-2.8	-4.3	-3.0	-2.3
194.0	-1.6	-5.7	-4.1	-2.6	-3.1	-4.5	-3.3	-2.4
199.0	-1.3	-5.6	-3.9	-2.5	-3.2	-4.5	-3.0	-2.4
204.0	-1.2	-5.6	-4.2	-3.0	-3.2	-4.6	-3.2	-2.5
209.0	-1.2	-5.9	-4.2	-2.7	-3.5	-4.8	-3.4	-2.7
214.0	-1.7	-5.7	-4.3	-2.8	-3.3	-4.8	-3.4	-2.7
219.0	-2.3	-5.8	-4.3	-3.0	-4.2	-4.8	-3.6	-2.8
224.0	-2.3	-5.9	-4.3	-2.7	-4.2	-4.8	-3.4	-2.8
229.0	-2.1	-5.9	-4.4	-2.9	-4.1	-4.8	-3.6	-2.8
234.0	-2.2	-5.9	-4.2	-2.9	-4.1	-5.0	-3.4	-2.8
239.0	-2.6	-6.2	-4.4	-3.2	-4.2	-5.0	-3.4	-2.9
244.0	-2.3	-6.2	-4.6	-3.1	-4.3	-4.9	-3.8	-2.8
249.0	-2.1	-6.4	-4.6	-3.0	-4.2	-4.9	-3.7	-2.9
254.0	-2.3	-6.1	-4.6	-3.1	-4.2	-4.9	-3.8	-2.9
259.0	-2.1	-6.0	-4.6	-3.1	-4.1	-4.9	-3.6	-2.9
264.0	-3.1	-6.8	-4.7	-3.1	-4.4	-5.2	-3.8	-3.1
269.0	-2.8	-6.6	-5.0	-3.2	-4.4	-5.3	-4.0	-3.3
274.0	-2.4	-6.6	-4.9	-3.1	-4.2	-5.3	-3.8	-3.2
279.0	-2.3	-6.4	-4.3	-2.6	-4.1	-5.1	-3.3	-2.7
284.0	-2.4	-6.8	-4.5	-2.7	-4.1	-5.4	-3.7	-2.7
289.0	-2.9	-7.2	-5.3	-3.4	-4.4	-5.7	-4.3	-3.2

AFSS RUN #4 DAY 2126

Test Time (min)	Temperature at SOFI Depth: 16.7mm (.66in)	14.0mm (.55in)	32.5mm (1.28in)
0.0	13.6 C	13.4 C	13.3 C
4.0	13.4	13.4	13.2
9.0	10.8	10.4	13.0
14.0	2.5	2.6	11.7
19.0	-6.5	-6.2	9.4
24.0	-7.0	-10.7	6.3
29.0	-7.5	-11.7	3.0
34.0	-7.5	-12.2	2.8
39.0	-8.1	-12.1	1.7
44.0	-8.3	-11.8	1.1
49.0	-8.3	-12.3	1.2
54.0	-8.0	-12.2	1.4
59.0	-8.9	-12.8	1.2
64.0	-9.3	-12.9	1.2
69.0	-9.3	-12.9	1.3
74.0	-9.6	-13.2	0.8
79.0	-9.9	-13.5	0.7
84.0	-10.2	-13.9	0.8
89.0	-10.6	-13.7	0.7
94.0	-10.4	-13.4	1.1
99.0	-10.7	-13.8	0.5
104.0	-11.1	-15.0	0.6
109.0	-11.2	-14.9	0.8
114.0	-11.1	-14.8	0.7
119.0	-11.3	-15.1	0.4
124.0	-10.5	-13.4	1.7
129.0	-10.8	-15.2	1.1
134.0	-11.9	-15.5	0.2
139.0	-12.1	-15.5	0.0
144.0	-12.3	-12.0	0.3
149.0	-12.4	-16.2	0.3
154.0	-11.1	-17.0	1.7
159.0	-12.3	-16.7	0.3
164.0	-13.2	-17.4	0.1
169.0	-12.8	-17.6	0.5
174.0	-13.1	-18.1	0.3
179.0	-13.4	-18.0	0.1
184.0	-13.7	-18.2	0.0
189.0	-13.9	-18.0	0.1
194.0	-14.2	-16.7	-0.2
199.0	-14.1	-18.6	0.0
204.0	-14.6	-18.9	-0.2
209.0	-14.6	-19.3	-0.3
214.0	-14.9	-19.2	-0.3
219.0	-14.9	-19.2	-0.4
224.0	-15.0	-19.7	-0.4
229.0	-15.1	-19.9	-0.4
234.0	-15.1	-20.3	-0.4
239.0	-15.4	-19.3	-0.6
244.0	-15.7	-20.3	-0.7
249.0	-15.6	-20.7	-0.6
254.0	-15.6	-20.7	-0.6
259.0	-15.8	-20.8	-0.6
264.0	-15.8	-20.8	-0.7
269.0	-16.2	-21.3	-1.1
274.0	-16.0	-21.4	-1.2
279.0	-15.5	-21.0	-0.3
284.0	-15.5	-21.4	-0.7
289.0	-16.1	-20.8	-1.0

AFSS RUN # 4 DAY 2126

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	13.2	13.3	13.8	13.8
	13.2	13.3	13.3	13.8
	13.2	13.3	13.8	13.8
	13.2	13.3	13.8	13.8
	13.2	13.3	13.8	13.8
	13.2	13.3	13.8	13.8
	13.2	13.3	13.8	13.8
	13.1	13.3	13.3	13.8
	13.1	13.3	12.7	12.7
	12.9	13.3	11.1	12.2

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	12.9	13.3	12.7	13.3
	12.9	13.3	13.3	13.3
	12.9	13.3	12.7	12.7
	12.9	13.3	12.2	12.7
	12.9	13.3	11.6	11.6
	12.9	12.7	9.4	11.1
	12.9	12.7	8.8	9.4
	12.8	13.3	6.1	7.2
	12.7	13.3	0.0	2.2
	12.6	12.7	-2.2	-1.6

AFSS RUN # 4 DAY 2126

TEST TIME 29.0 MINS

SIDE A

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	12.4	11.7	-0.7	-1.1
	12.5	11.6	2.2	2.2
	12.5	11.7	1.1	0.5
	12.5	11.7	-1.1	-2.2
	12.6	11.6	-6.6	-9.4
	12.5	12.0	-10.5	-10.5
	12.4	11.6	-11.1	-10.5
	12.4	11.6	-11.6	-10.5
	12.3	11.6	-11.5	-11.1
	12.2	11.6	-9.1	-10.0

TEST TIME 44.0 MINS

SIDE B

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	11.9	11.1	-5.5	-3.8
	12.0	11.1	-6.2	-5.5
	12.0	11.1	-7.2	-5.5
	12.0	11.1	-5.5	-5.5
	12.1	11.1	-5.5	-4.4
	12.0	11.1	-5.5	-5.5
	11.9	11.1	-6.1	-5.5
	11.9	11.1	-6.1	-6.1
	11.9	11.1	-6.1	-5.5
	11.7	11.1	-6.1	-4.4

AFSS RUN # 4 DAY 2126

TEST TIME 59.0 MINS

SIDE A

Emissivity Panel — SOFI Panel Pyrometer Data

Thermocouple	Pyrometer	Left	Right
TOP 11.4	10.0	-18.8	-20.0
11.6	10.0	-14.8	-12.2
11.6	10.0	-14.4	-12.3
11.6	10.0	-13.3	-12.2
11.6	10.0	-13.3	-12.7
11.6	10.0	-13.3	-12.2
11.5	10.0	-12.7	-12.2
11.5	10.0	-12.2	-13.8
11.4	10.0	-13.8	-12.3
11.3	10.0	-11.1	-11.1

TEST TIME 74.0 MINS

SIDE B

Emissivity Panel — SOFI Panel Pyrometer Data

Thermocouple	Pyrometer	Left	Right
TOP 11.2	10.0	-6.1	-6.1
11.2	10.0	-7.7	-6
11.3	10.0	-6.6	-6.1
11.3	10.0	-6.5	-6.1
11.3	10.0	-6.1	-5.5
11.3	10.0	-5.5	-6.1
11.2	10.0	-6.1	-5.5
11.2	10.0	-6.6	-6.1
11.1	10.0	-7.2	-6.1
11.0	10.0	-5.5	-4.4

AFSS RUN # 4 DAY 2126

TEST TIME 89.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	10.9	9.4	-21.5	-19.4
	11.0	10.0	-14.6	-14.4
	11.1	10.0	-13.8	-13.7
	11.1	10.0	-12.7	-12.9
	11.1	10.0	-14.1	-13.2
	11.1	10.0	-13.3	-13.2
	11.0	10.0	-12.7	-12.2
	11.0	10.0	-12.0	-12.7
	10.9	10.5	-12.9	-12.2
	10.8	10.0	-10.5	-11.2

TEST TIME 104.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	10.8	10.0	-5.0	-5.5
	10.8	10.0	-6.6	-6.1
	10.9	10.0	-6.1	-5.7
	10.9	10.0	-5.8	-6.1
	10.9	10.0	-6.1	-5.5
	10.9	10.0	-6.6	-5.9
	10.8	10.0	-5.5	-5.0
	10.8	10.0	-6.1	-6.1
	10.8	10.1	-6.6	-6.1
	10.7	10.0	-6.2	-5.6

AFSS RUN # 4 DAY 2126

TEST TIME 119.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 10.6	8.8	-20.5	-19.4
10.7	9.1	-15.0	-14.4
10.7	9.1	-14.7	-13.8
10.7	9.6	-14.4	-13.0
10.7	8.8	-14.4	-13.8
10.7	9.2	-14.4	-14.1
10.7	9.8	-12.7	-12.8
10.6	9.8	-12.7	-13.0
10.6	9.8	-13.8	-12.7
10.5	10.0	-11.3	-12.7

TEST TIME 134.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 10.4	8.8	-5.2	-5.5
10.4	8.8	-6.8	-6.6
10.5	9.1	-6.6	-6.6
10.5	8.8	-6.3	-6.1
10.5	8.8	-6.6	-5.7
10.5	9.4	-7.2	-6.1
10.5	8.8	-6.6	-6.1
10.5	9.4	-6.6	-6.1
10.4	9.5	-7.2	-6.6
10.4	9.3	-6.1	-5.5

AFSS RUN # 4 DAY 2126

TEST TIME 149.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	10.2	8.3	-22.7	-20.0
	10.2	8.3	-16.1	-13.8
	10.3	8.8	-15.5	-13.8
	10.3	8.3	-13.8	-13.8
	10.3	8.8	-15.5	-14.6
	10.3	8.8	-14.7	-14.4
	10.3	8.8	-12.7	-13.8
	10.3	8.8	-14.4	-13.8
	10.2	8.8	-14.4	-12.2
	10.2	8.8	-12.2	-12.2

TEST TIME 164.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	9.9	8.8	-5.2	-3.3
	9.9	8.8	-6.1	-5.5
	10.0	8.8	-6.1	-6.1
	10.0	8.8	-7.2	-6.1
	10.0	8.8	-6.6	-6.1
	10.0	8.8	-6.6	-5.5
	9.9	8.8	-6.1	-5.4
	9.9	8.8	-6.6	-5.9
	9.9	8.8	-7.7	-5.5
	9.8	8.8	-5.5	-4.4

AFSS RUN # 4 DAY 2126

TEST TIME 179.0 MINS

SIDE A

Emissivity Panel | SOFI Panel Pyrometer Data

Thermocouple		Pyrometer	Left	Right
TOP	9.7	8.3	-21.6	-20.5
	9.8	8.8	-12.7	-11.6
	9.8	8.8	-15.0	-12.7
	9.8	8.3	-15.0	-14.4
	9.9	8.3	-15.5	-14.4
	9.9	8.8	-14.4	-13.8
	9.8	8.3	-13.8	-12.2
	9.8	8.8	-14.4	-13.3
	9.8	8.8	-12.7	-11.6
	9.7	8.8	-11.6	-12.2

TEST TIME 194.0 MINS

SIDE B

Emissivity Panel | SOFI Panel Pyrometer Data

Thermocouple		Pyrometer	Left	Right
TOP	9.6	8.8	-5.5	-4.4
	9.7	8.8	-6.1	-5.5
	9.7	8.8	-6.6	-6.1
	9.7	8.8	-7.2	-7.2
	9.7	8.8	-6.1	-6.1
	9.8	8.8	-7.2	-6.1
	9.7	9.4	-6.1	-5.7
	9.7	9.4	-6.6	-6.6
	9.7	9.4	-7.2	-6.1
	9.6	9.4	-6.6	-6.1

AFSS RUN # 4 DAY 2126

TEST TIME 209.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	9.4	8.3	-22.7	-22.7
	9.5	8.3	-15.0	-13.0
	9.6	8.4	-16.0	-14.1
	9.6	8.3	-17.1	-15.0
	9.6	8.3	-16.7	-14.4
	9.6	8.3	-15.0	-14.0
	9.6	8.9	-14.9	-13.8
	9.6	8.3	-15.0	-15.0
	9.6	8.3	-14.3	-12.3
	9.5	8.8	-12.2	-12.2

TEST TIME 224.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	9.3	8.8	-6.1	-5.0
	9.3	8.4	-7.2	-6.2
	9.4	8.8	-6.1	-7.2
	9.4	8.8	-7.2	-6.1
	9.4	8.6	-6.1	-6.1
	9.4	8.4	-6.4	-6.6
	9.4	8.8	-6.1	-6.6
	9.4	8.8	-7.6	-6.6
	9.3	8.8	-7.1	-6.6
	9.2	8.8	-7.2	-6.1

AFSS RUN # 4 DAY 2126

TEST TIME 239.0 MINS

SIDE A

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	9.2	8.3	-23.5	-24.2
	9.3	8.3	-15.2	-14.7
	9.3	9.0	-16.0	-14.6
	9.3	8.8	-15.0	-14.6
	9.4	8.3	-16.1	-15.5
	9.4	8.3	-15.0	-14.6
	9.3	8.3	-12.7	-13.8
	9.3	8.3	-14.2	-13.8
	9.3	8.8	-13.0	-12.6
	9.3	8.8	-11.9	-11.6

TEST TIME 254.0 MINS

SIDE B

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	9.2	8.3	-6.5	-5.2
	9.3	8.8	-7.2	-7.1
	9.3	8.8	-6.6	-6.6
	9.3	8.7	-6.5	-6.1
	9.4	8.8	-6.6	-5.5
	9.4	8.8	-7.1	-6.1
	9.3	8.8	-7.2	-6.1
	9.3	8.3	-7.2	-6.6
	9.3	8.8	-7.2	-7.1
	9.2	8.8	-6.6	-5.7

AFSS RUN # 4 DAY 2126

TEST TIME 269.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 9.3	8.3	-23.3	-24.0
9.3	8.3	-15.5	-14.4
9.4	8.3	-16.1	-15.5
9.4	8.3	-15.5	-15.5
9.4	8.3	-16.1	-16.1
9.4	8.3	-15.5	-15.0
9.4	8.3	-15.5	-14.4
9.3	8.8	-15.5	-15.5
9.3	8.3	-14.4	-12.7
9.2	8.8	-13.8	-13.8

TEST TIME 284.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 9.3	8.3	-6.1	-5.5
9.3	8.3	-7.7	-6.1
9.4	8.3	-8.3	-7.2
9.4	8.3	-8.8	-6.8
9.4	8.3	-7.7	-6.6
9.4	8.8	-8.8	-8.3
9.4	8.8	-8.3	-7.2
9.5	8.8	-7.2	-6.6
9.5	9.2	-7.2	-8.3
9.5	8.8	-7.2	-6.6

AFSS RUN #5 DAY 2130

Test Time (min)	4 Meter Dewcell Dew point	4 Meter Dewcell Temp	1 Meter Dewcell Dew point	1 Meter Dewcell Temp	Radiometers w/cm 2 West	Radiometers w/cm 2 East
0.0	7.4 C	8.3 C	8.1 C	8.7 C	0.000	-0.230
5.0	7.0	8.2	8.5	8.8	0.000	0.000
10.0	6.8	8.1	8.4	8.6	0.000	0.230
15.0	6.8	8.3	8.1	8.6	0.690	1.149
20.0	6.8	8.1	7.9	8.6	1.609	2.529
25.0	6.5	7.8	7.6	8.3	2.988	5.287
30.0	6.0	7.6	7.2	8.1	4.598	6.897
35.0	7.0	7.2	6.8	8.3	5.057	6.897
40.0	6.6	7.2	6.8	8.3	5.287	6.897
45.0	6.9	4.1	7.3	7.9	5.057	6.897
50.0	6.6	5.8	5.5	7.9	5.057	6.897
55.0	6.6	5.8	6.5	8.1	5.057	7.126
60.0	7.1	5.8	6.8	8.1	5.057	6.897
65.0	6.6	5.7	5.9	8.2	5.057	6.897
70.0	7.0	5.6	6.5	8.1	5.057	6.897
75.0	6.7	0.5	6.7	8.0	5.057	6.897
80.0	7.1	4.7	7.0	7.9	5.057	6.897
85.0	6.8	6.1	6.3	8.0	5.057	6.897
90.0	6.6	7.5	6.5	7.7	5.057	6.897
95.0	6.9	7.3	6.7	7.7	5.057	6.897
100.0	6.8	7.2	6.8	7.7	5.057	6.667
105.0	6.8	7.3	6.6	7.5	5.057	6.897
110.0	6.8	7.3	6.5	7.6	5.057	6.897
115.0	6.7	7.3	6.6	7.6	5.057	6.897
120.0	6.5	7.3	6.4	7.6	5.057	6.897
125.0	6.6	7.4	6.7	7.6	5.057	6.897
130.0	6.9	7.3	6.9	7.5	5.057	7.126
135.0	6.7	7.3	6.9	7.4	5.057	6.657
140.0	7.3	7.2	7.1	7.5	4.828	6.667
145.0	7.3	7.2	7.4	7.4	4.828	6.897
150.0	7.4	7.2	7.3	7.5	4.828	6.667
155.0	7.4	7.2	7.6	7.4	4.828	6.667
160.0	7.4	7.0	7.5	7.2	4.828	6.667
165.0	7.3	7.1	7.2	7.2	4.828	6.437
170.0	7.4	6.8	7.5	7.3	4.598	6.207
175.0	7.6	6.9	7.1	7.2	4.828	6.207
180.0	7.2	6.9	7.0	7.1	4.828	6.207
185.0	7.0	6.8	6.6	7.1	4.828	6.207
190.0	6.3	6.9	6.3	7.0	4.828	6.437
195.0	6.7	6.7	6.2	6.9	4.828	6.207
200.0	6.5	6.6	5.9	6.7	5.057	6.437
210.0	5.8	6.7	5.6	6.7	4.828	6.207
220.0	6.0	6.6	5.5	6.5	5.057	6.207
225.0	6.3	6.5	5.8	6.6	4.828	6.207
230.0	6.2	6.4	6.1	6.6	4.828	6.207
235.0	6.8	6.3	6.4	6.4	4.828	5.977
240.0	6.9	6.1	6.3	6.3	4.828	5.747
245.0	6.3	6.1	6.5	6.6	4.828	5.977
250.0	6.3	6.1	6.1	6.4	4.828	5.977
255.0	6.5	6.1	6.5	6.3	4.828	5.747
260.0	6.7	6.0	6.7	6.3	4.598	5.747
265.0	6.6	5.9	6.4	6.1	4.598	5.747
270.0	6.5	6.1	6.8	6.1	4.598	5.517
275.0	6.5	6.3	6.8	6.1	4.598	5.517
280.0	6.6	6.5	6.8	6.1	4.598	5.517
285.0	6.9	6.3	6.9	6.2	4.368	5.057
290.0	7.5	5.9	7.2	6.1	4.368	4.828
295.0	-13.6	5.1	-9.6	6.0	4.138	4.828
300.0	6.8	5.3	5.6	5.7	4.138	4.368

AFSS RUN #5 DAY 2130

Test Time (min)	Ceiling East	Ceiling West	Floor East	Floor West	Plastic Walls N	Plastic Walls S	Plastic Walls E	Plastic Walls W
0.0	8.1 C	9.2 C	9.2 C	9.4 C	9.5 C	9.3 C	8.7 C	9.7 C
5.0	8.1	9.1	9.2	9.4	9.4	9.3	8.6	9.7
10.0	8.2	9.0	9.0	9.4	9.3	9.2	8.4	9.6
15.0	7.8	8.8	8.9	9.4	9.2	9.2	8.2	9.7
20.0	7.7	8.8	8.8	9.3	9.1	9.1	8.3	9.5
25.0	7.4	8.6	8.7	9.2	8.9	8.9	8.1	9.3
30.0	7.4	8.6	8.7	9.1	8.8	8.8	7.9	9.2
35.0	7.3	8.4	8.8	9.1	8.7	8.8	8.0	9.1
40.0	7.2	8.3	8.6	9.1	8.7	8.8	7.8	9.1
45.0	7.1	8.3	8.6	8.9	8.6	8.7	7.9	8.9
50.0	6.9	8.2	8.4	8.9	8.5	8.6	7.8	8.9
55.0	7.1	8.2	8.7	8.7	8.4	8.6	7.8	8.8
60.0	6.8	8.1	8.6	8.6	8.3	8.6	7.7	8.8
65.0	6.7	7.9	8.4	8.5	8.3	8.5	7.8	8.7
70.0	6.4	7.9	8.6	8.4	8.3	8.4	7.6	8.7
75.0	6.4	7.9	8.5	8.4	8.2	8.4	7.4	8.7
80.0	6.3	7.7	8.4	8.3	8.2	8.3	7.5	8.7
85.0	6.2	7.7	8.3	8.3	8.1	8.3	7.4	8.6
90.0	6.1	7.6	8.2	8.2	8.0	8.2	7.4	8.5
95.0	5.9	7.5	8.3	8.1	7.9	8.2	7.4	8.4
100.0	5.7	7.3	8.2	8.1	7.8	8.1	7.3	8.3
105.0	5.4	7.3	8.2	10.5	7.7	8.1	7.2	8.4
110.0	5.7	7.2	8.3	10.5	7.7	8.0	7.3	8.5
115.0	6.0	7.2	8.2	10.4	7.8	8.1	7.3	8.4
120.0	6.1	7.4	8.2	10.4	7.8	8.1	7.1	8.3
125.0	5.8	7.2	8.1	10.4	7.9	8.0	7.3	8.2
130.0	5.7	7.1	8.1	10.4	7.8	7.9	7.2	8.1
135.0	5.5	6.9	8.0	10.4	7.8	7.9	7.1	8.0
140.0	5.4	6.9	8.1	10.3	7.8	7.8	7.1	8.1
145.0	5.5	6.8	8.1	10.3	7.7	7.8	7.1	8.1
150.0	5.3	6.7	8.1	10.3	7.8	7.9	7.2	8.0
155.0	5.3	6.7	7.8	10.3	7.7	7.7	7.2	8.0
160.0	5.3	6.6	7.9	10.3	7.5	7.7	7.1	7.9
165.0	5.5	6.6	7.9	10.2	7.4	7.7	7.0	7.9
170.0	5.4	6.6	7.8	10.2	7.4	7.6	6.9	7.9
175.0	5.3	6.6	7.8	10.2	7.4	7.7	6.9	7.9
180.0	5.3	6.6	7.9	10.2	7.3	7.5	6.8	7.7
185.0	5.4	6.6	7.6	10.2	7.3	7.4	6.9	7.6
190.0	5.2	6.5	7.6	10.0	7.3	7.4	6.7	7.4
195.0	5.1	6.4	8.7	9.8	7.2	7.4	6.7	7.4
200.0	4.8	6.4	8.7	9.8	7.2	7.3	6.6	7.5
210.0	4.8	6.2	8.7	9.8	7.1	7.1	6.3	7.2
220.0	4.7	6.3	8.6	9.8	6.9	7.2	6.3	7.2
225.0	4.6	6.3	8.6	9.7	6.9	7.1	6.4	7.2
230.0	4.6	6.3	8.6	9.5	6.9	7.2	6.2	7.2
235.0	4.8	6.3	8.6	8.4	6.9	7.1	6.3	7.4
240.0	4.5	6.2	8.5	8.1	6.8	7.0	6.2	7.1
245.0	4.2	6.1	8.5	8.3	6.7	6.9	6.2	7.1
250.0	4.3	6.1	8.5	8.1	6.7	6.9	6.1	7.0
255.0	4.4	6.0	8.4	8.1	6.6	6.8	6.1	7.0
260.0	4.3	5.9	8.4	8.1	6.5	6.8	6.1	7.1
265.0	3.9	5.8	8.4	7.9	6.4	6.7	6.1	6.9
270.0	4.0	5.7	8.3	8.1	6.4	6.7	6.2	6.8
275.0	3.7	5.5	8.3	8.0	6.4	6.7	6.3	6.9
280.0	3.8	5.4	8.3	8.0	6.6	6.6	6.3	6.9
285.0	3.7	5.3	8.3	7.9	6.6	6.6	6.3	6.9
290.0	3.2	5.3	8.2	7.8	6.4	6.5	6.0	6.9
295.0	3.5	5.3	8.2	7.7	6.2	6.4	5.9	6.7
300.0	3.7	5.4	8.2	7.8	6.1	6.4	5.8	6.7

AFSS RUN #5 DAY 2130

Test Time (min)	Thermocouple Readout by Position SIDE A 1	2	3	4	5	6	7	8
0.0	10.0	9.9	9.7	9.7	9.8	10.1	10.1	10.2
5.0	9.9	9.8	9.5	9.4	9.8	9.8	10.1	9.8
10.0	9.2	8.7	6.8	6.1	9.3	9.1	8.8	6.5
15.0	7.9	6.6	2.2	-4.1	8.2	7.7	6.0	-1.1
20.0	5.9	3.6	-4.6	-6.4	6.7	5.4	1.7	-3.1
25.0	2.8	-0.7	-9.1	-6.7	4.7	2.4	-2.6	-4.6
30.0	-1.6	-8.4	-9.1	-7.2	1.4	-1.2	-3.7	-4.7
35.0	-8.1	-9.2	-8.1	-6.8	-3.4	-1.6	-3.7	-4.7
40.0	-9.3	-9.3	-8.2	-6.2	-3.8	-1.0	-3.2	-4.2
45.0	-9.3	-9.5	-8.3	-7.0	-4.3	-1.9	-3.9	-4.9
50.0	-9.6	-9.4	-8.2	-6.3	-4.9	-1.9	-4.0	-4.6
55.0	-9.6	-9.8	-8.6	-6.4	-5.2	-1.8	-3.8	-4.6
60.0	-9.2	-9.8	-8.8	-6.6	-4.8	-2.6	-4.1	-5.1
65.0	-9.7	-10.2	-8.6	-6.6	-5.1	-2.4	-3.8	-5.2
70.0	-9.4	-10.2	-9.0	-6.6	-4.7	-1.8	-3.8	-4.8
75.0	-9.8	-10.2	-9.0	-6.6	-4.9	-2.3	-4.1	-4.9
80.0	-9.3	-10.3	-8.9	-6.9	-4.9	[illegible]	-4.0	-5.1
85.0	-9.9	-10.9	-9.2	-7.0	-5.3	-2.9	-4.0	-5.1
90.0	-10.5	-10.9	-9.2	-6.6	-5.3	-2.7	-4.4	-5.1
95.0	-10.2	-11.1	-9.4	-6.5	-5.0	-2.9	-4.0	-5.0
100.0	-10.2	-10.9	-9.1	-6.0	-5.3	-2.2	-3.9	-5.1
105.0	-10.3	-11.7	-9.8	-7.2	-5.9	-2.8	-4.7	-5.6
110.0	-10.0	-11.7	-10.1	-6.7	-5.5	-3.3	-4.3	-5.5
115.0	-10.5	-11.7	-10.2	-7.0	-5.7	-3.4	-4.6	-5.6
120.0	-10.3	-11.9	-10.1	-7.1	-5.1	-4.0	-4.8	-5.7
125.0	-10.1	-12.4	-10.6	-7.5	-5.6	-3.7	-4.7	-5.7
130.0	-10.2	-12.4	-9.8	-5.9	-5.4	-3.8	-4.3	-5.2
135.0	-10.7	-12.0	-9.7	-6.3	-5.5	-3.4	-3.7	-4.9
140.0	-10.4	-12.7	-10.7	-7.4	-5.2	-4.4	-4.4	-5.2
145.0	-9.3	-12.7	-10.8	-7.4	-5.4	-4.8	-4.5	-5.2
150.0	-9.6	-12.9	-10.6	-6.9	-5.4	-4.7	-4.4	-5.2
155.0	-9.9	-12.9	-10.7	-7.4	-5.7	-5.0	-4.4	-5.2
160.0	-10.7	-13.6	-11.6	-7.7	-6.0	-5.3	-4.5	-5.8
165.0	-10.4	-13.5	-11.3	-7.1	-5.9	-5.5	-4.4	-5.6
170.0	-11.3	-13.9	-11.3	-7.1	-6.4	-5.7	-4.3	-4.9
175.0	-11.5	-14.1	-11.3	-7.3	-6.3	-5.8	-4.4	-5.1
180.0	-11.6	-14.4	-11.9	-7.8	-6.4	-6.1	-4.8	-5.6
185.0	-11.4	-14.6	-12.2	-8.3	-6.6	-6.3	-4.9	-5.9
190.0	-12.1	-14.8	-12.2	-8.5	-6.6	-6.0	-5.1	-5.9
195.0	-11.8	-15.2	-12.5	-8.6	-6.9	-6.9	-5.2	-6.2
200.0	-12.6	-15.4	-12.6	-8.8	-7.4	-7.2	-5.3	-6.3
210.0	-12.8	-15.9	-12.5	-8.1	-7.4	-7.4	-4.2	-5.3
220.0	-12.3	-16.2	-13.1	-9.2	-7.4	-7.7	-5.2	-6.3
225.0	-12.2	-16.3	-13.0	-8.9	-7.1	-7.8	-5.5	-6.6
230.0	-12.2	-16.7	-13.2	-8.9	-6.9	-7.8	-5.3	-6.4
235.0	-11.6	-16.5	-13.3	-8.7	-7.0	-8.2	-5.4	-6.4
240.0	-11.9	-16.9	-13.2	-8.7	-6.7	-8.2	-5.4	-6.7
245.0	-12.3	-16.8	-13.6	-9.0	-7.1	-8.5	-5.5	-6.9
250.0	-12.3	-16.8	-12.8	-7.9	-7.0	-8.3	-5.2	-6.2
255.0	-12.6	-16.7	-13.1	-8.1	-7.2	-8.2	-4.6	-5.9
260.0	-12.1	-17.2	-13.5	-8.8	-7.3	-8.7	-5.2	-6.6
265.0	-12.6	-17.3	-13.8	-8.8	-8.1	-9.2	-5.6	-6.7
270.0	-12.3	-17.6	-13.8	9999.9	-7.2	-9.0	-5.3	-6.6
275.0	-12.3	-17.7	-13.8	9999.9	-7.6	-9.3	-5.6	-7.0
280.0	-11.5	-17.6	-13.8	9999.9	-7.7	-9.6	-5.4	-6.9
285.0	-11.1	-17.2	-13.7	9999.9	-7.3	-9.6	-5.2	-6.7
290.0	-12.1	-17.9	-14.1	-9.3	-7.5	-9.9	-5.6	-7.1
295.0	-12.7	-19.1	-14.9	-9.8	-6.9	-9.9	-5.7	-7.4
300.0	-12.7	-19.4	-14.9	-9.9	-6.9	-10.4	-5.8	-7.7

AFSS RUN #5 DAY 2130

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	10.1	10.0	10.0	9.8	10.1	10.0	10.0	9.8
5.0	9.9	9.9	9.8	9.6	10.0	9.9	9.8	9.7
10.0	9.7	9.2	8.4	7.1	9.7	9.3	8.6	7.6
15.0	8.8	7.4	5.2	0.2	8.9	8.1	5.9	1.8
20.0	7.6	4.8	0.4	-2.3	7.7	6.2	2.4	-1.4
25.0	5.8	0.9	-2.9	-2.5	6.1	3.3	-2.1	-2.4
30.0	3.5	-4.7	-3.7	-2.8	3.6	-2.2	-3.4	-2.8
35.0	-0.9	-5.5	-3.7	-2.4	-0.7	-4.6	-3.3	-2.5
40.0	-2.4	-5.7	-3.7	-2.6	-3.6	-5.2	-3.2	-2.2
45.0	-2.9	-6.0	-4.0	-2.8	-4.4	-5.3	-3.8	-2.9
50.0	-3.0	-6.1	-3.6	-2.9	-4.4	-5.4	-3.8	-2.8
55.0	-2.9	-5.6	-3.3	-2.3	-4.3	-5.2	-3.4	-2.2
60.0	-2.4	-5.1	-3.7	-2.6	-4.0	-5.0	-3.0	-1.8
65.0	-3.1	-5.5	-4.2	-3.3	-4.4	-5.4	-3.7	-3.1
70.0	-2.7	-5.8	-3.9	-2.9	-4.3	-5.3	-3.9	-3.2
75.0	-2.4	-5.8	-3.9	-2.7	-4.3	-5.3	-3.9	-3.0
80.0	-2.3	-5.9	-4.0	-2.8	-4.1	-5.1	-3.8	-2.6
85.0	-2.9	-6.1	-4.2	-3.2	-4.3	-5.4	-4.1	-3.1
90.0	-3.3	-6.1	-4.5	-3.4	-4.9	-5.6	-4.0	-3.2
95.0	-3.1	-6.4	-4.7	-3.5	-4.9	-5.5	-4.1	-3.3
100.0	-3.6	-6.7	-4.9	-3.3	-5.0	-5.6	-3.9	-3.2
105.0	-3.2	-6.2	-4.8	-3.5	-4.7	-5.4	-4.2	-3.2
110.0	-3.2	-6.8	-5.2	-3.6	-5.1	-5.5	-4.3	-3.3
115.0	-3.4	-6.6	-4.9	-3.7	-5.1	-5.7	-4.3	-3.3
120.0	-3.3	-6.9	-5.2	-3.7	-5.2	-5.7	-4.4	-3.7
125.0	-3.2	-6.8	-5.1	-3.7	-4.9	-5.7	-4.7	-3.6
130.0	-3.4	-6.9	-5.0	-3.6	-5.2	-5.9	-4.6	-3.6
135.0	-3.8	-6.9	-5.1	-3.8	-5.6	-5.8	-4.4	-3.3
140.0	-2.6	-6.9	-5.3	-3.7	-4.3	-5.6	-4.0	-3.3
145.0	-3.1	-6.9	-5.2	-3.6	-4.8	-5.6	-4.4	-3.5
150.0	-3.2	-6.9	-5.3	-3.5	-4.3	-5.7	-3.9	-3.1
155.0	-2.7	-7.1	-5.1	-3.3	-4.4	-5.7	-4.6	-3.7
160.0	-2.4	-7.2	-5.4	-3.8	-4.6	-5.8	-4.4	-3.4
165.0	-3.3	-7.3	-5.4	-3.4	-5.0	-5.8	-4.7	-3.8
170.0	-3.5	-7.6	-5.7	-3.8	-5.3	-5.9	-4.8	-3.8
175.0	-3.6	-7.5	-5.7	-3.8	-5.2	-6.2	-4.8	-3.5
180.0	-4.2	-7.7	-6.0	-3.9	-5.8	-6.4	-5.1	-3.9
185.0	-4.0	-8.0	-6.4	-4.4	-5.9	-6.4	-5.1	-4.1
190.0	-4.1	-8.0	-6.2	-4.3	-5.9	-6.6	-5.4	-4.3
195.0	-4.0	-8.3	-6.4	-4.6	-5.9	-6.6	-5.3	-4.4
200.0	-4.4	-8.4	-6.6	-4.7	-5.9	-6.9	-5.7	-4.3
210.0	-4.4	-8.9	-7.3	-5.4	-6.2	-7.3	-5.8	-4.6
220.0	-4.1	-9.1	-7.3	-5.1	-5.9	-7.0	-6.1	-4.9
225.0	-4.5	-8.9	-7.3	-5.1	-5.8	-7.1	-5.5	-4.7
230.0	-4.1	-9.1	-7.4	-5.1	-5.6	-6.9	-5.3	-4.2
235.0	-3.9	-9.1	-7.2	-4.9	-5.4	-6.9	-5.7	-4.9
240.0	-3.8	-9.2	-7.6	-5.2	-5.6	-7.2	-5.8	-4.3
245.0	-4.0	-9.2	-7.3	-5.0	-5.9	-7.2	-5.3	-4.1
250.0	-4.2	-9.1	-7.1	-4.6	-6.0	-7.1	-5.4	-4.1
255.0	-4.3	-9.5	-7.4	-4.5	-6.0	-7.7	-6.0	-4.8
260.0	-4.1	-9.4	-7.6	-5.3	-5.9	-7.2	-5.7	-4.9
265.0	-4.7	-9.5	-8.2	-5.6	-6.3	-7.5	-5.9	-4.9
270.0	-4.4	-9.5	-8.4	-5.5	-6.2	-8.0	-6.2	-5.2
275.0	-4.2	-9.9	-8.1	-5.5	-6.1	-8.0	-6.4	-5.2
280.0	-3.9	-9.8	-8.4	-5.4	-5.6	-7.8	-5.9	-5.2
285.0	-4.0	-9.8	-8.2	-5.0	-5.6	-7.6	-6.1	-5.0
290.0	-4.2	-9.9	-8.6	-5.9	-5.6	-7.9	-6.6	-5.3
295.0	-4.1	-10.4	-8.4	-5.4	-5.6	-8.2	-6.4	-4.6
300.0	-3.4	-9.8	-8.1	-4.4	-5.4	-8.1	-5.7	-3.8

AFSS RUN #5 DAY 2130

Test Time (min)	Temperature at SOFI Depth: 16.7mm (.66in)	14.0mm (.55in)	32.5mm (1.28in)
0.0	9.9 C	9.7 C	9.7 C
5.0	7.7	7.1	9.6
10.0	-0.3	0.1	8.5
15.0	-9.3	-11.8	6.4
20.0	-10.2	-14.3	2.9
25.0	-10.4	-13.8	-0.2
30.0	-11.2	-14.8	-0.9
35.0	-11.3	-15.0	-1.0
40.0	-10.6	-14.9	-1.1
45.0	-11.8	-15.0	-1.3
50.0	-11.6	-14.8	-1.6
55.0	-9.9	-15.3	0.0
60.0	-11.5	-15.1	-1.0
65.0	-12.6	-15.9	-1.6
70.0	-12.1	-16.0	-1.3
75.0	-12.6	-16.1	-1.0
80.0	-12.6	-15.8	-1.2
85.0	-13.2	-16.6	-1.5
90.0	-13.6	-16.8	-1.7
95.0	-13.4	-17.2	-1.2
100.0	-13.9	-15.8	-1.6
105.0	-14.1	-18.2	-1.5
110.0	-14.1	-17.2	-1.3
115.0	-14.7	-18.9	-1.6
120.0	-14.5	-18.3	-1.4
125.0	-14.8	-17.8	-1.7
130.0	-15.1	-15.1	-1.7
135.0	-15.1	-18.4	-1.8
140.0	-14.7	-19.8	-0.9
145.0	-15.4	-19.1	-1.9
150.0	-15.3	-19.5	-0.9
155.0	-15.6	-19.8	-1.4
160.0	-16.1	-20.4	-1.7
165.0	-16.1	-20.4	-1.4
170.0	-16.4	-21.1	-1.6
175.0	-16.5	-21.3	-2.1
180.0	-16.8	-21.7	-1.9
185.0	-17.4	-22.6	-2.1
190.0	-17.6	-22.3	-2.2
195.0	-17.9	-22.7	-2.1
200.0	-17.4	-23.2	-1.8
210.0	-18.8	-22.7	-2.5
220.0	-18.3	-23.4	-2.2
225.0	-18.3	-24.1	-2.4
230.0	-18.3	-23.8	-2.1
235.0	-18.9	-24.4	-2.4
240.0	-18.7	-24.4	-2.0
245.0	-18.1	-24.8	-1.7
250.0	-17.6	-24.2	-2.2
255.0	-18.8	-24.5	-2.3
260.0	-19.0	-24.9	-2.2
265.0	-19.6	-24.8	-2.8
270.0	-19.7	-25.3	-2.6
275.0	-20.1	-25.4	-2.8
280.0	-19.6	-24.4	-1.8
285.0	-20.2	-25.6	-2.8
290.0	-20.6	-26.7	-3.1
295.0	-20.0	-25.7	-2.7
300.0	-18.6	-27.4	-0.7

AFSS RUN # 5 DAY 2130

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right -PEG
TOP 9.7	7.7	7.7	7.7
9.7	7.7	7.7	7.7
9.7	7.7	7.2	7.7
9.6	7.7	7.7	7.7
9.6	7.2	7.7	7.7
9.5	7.7	7.7	7.7
9.4	7.2	7.7	7.7
9.4	7.3	7.2	7.7
9.3	7.2	7.2	8.2
9.3	7.2	6.1	6.9

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 9.5	7.7	5.5	6.1
9.6	7.7	5.5	6.1
9.5	7.7	5.5	6.7
9.4	7.7	5.0	5.5
9.4	7.7	4.4	5.0
9.3	7.2	3.3	3.3
9.2	7.2	2.2	2.7
9.2	7.2	-0.2	0.5
9.1	7.2	-7.2	-5.0
9.1	7.2	-7.7	-5.5

AFSS RUN # 5 DAY 2130

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel — SOFI Panel Pyrometer Data

Thermocouple		Pyrometer	Left	Right -DEG
TCP	9.2	7.2	-14.4	-15.9
	9.2	7.7	-14.4	-12.2
	9.2	7.7	-13.0	-13.3
	9.2	7.7	-14.4	-14.4
	9.2	7.7	-16.1	-15.5
	9.1	7.7	-15.5	-14.9
	8.9	7.7	-13.8	-13.8
	8.9	7.7	-15.0	-15.2
	8.8	7.2	-13.8	-12.7
	8.7	7.7	-12.7	-11.6

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel — SOFI Panel Pyrometer Data

Thermocouple		Pyrometer	Left	Right
TCP	8.9	8.3	-6.6	-4.4
	8.9	8.3	-7.7	-7.7
	8.9	8.3	-7.7	-7.7
	8.9	8.3	-8.3	-7.7
	8.9	8.3	-7.2	-6.6
	8.8	8.3	-7.7	-7.2
	8.7	8.3	-6.6	-6.6
	8.7	8.3	-7.2	-7.2
	8.6	8.3	-7.7	-7.7
	8.5	8.3	-7.7	-6.6

AFSS RUN # 5 DAY 2130

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel			SOFI Panel Pyrometer Data	
	Thermocouple	Pyrometer	Left	Right -PEG
TOP	8.6	7.7	-19.4	-21.6
	8.7	7.7	-17.1	-13.8
	8.7	7.7	-16.1	-13.8
	8.7	7.7	-16.1	-14.4
	8.7	8.3	-16.1	-15.0
	8.6	8.3	-15.0	-13.8
	8.5	8.7	-12.2	-13.8
	8.5	8.3	-13.0	-13.7
	8.4	8.3	-13.8	-13.0
	8.4	8.3	-13.0	-12.2

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel			SOFI Panel Pyrometer Data	
	Thermocouple	Pyrometer	Left	Right
TOP	8.4	7.7	-6.1	-5.0
	8.5	8.3	-6.2	-6.7
	8.4	8.3	-6.8	-6.1
	8.4	8.3	-7.6	-6.6
	8.4	8.3	-6.6	-6.1
	8.4	8.3	-7.2	-6.6
	8.4	8.3	-6.2	-7.2
	8.3	8.0	-7.0	-7.2
	8.3	8.3	-7.7	-7.7
	8.3	8.3	-8.3	-6.6

AFSS RUN # 5 DAY 2130

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel — SOFI Panel Pyrometer Data

Emissivity Panel Thermocouple	Pyrometer	Left	Right -PEG
TOP 8.2	7.2	-23.8	-25.5
8.3	7.2	-15.7	-13.8
8.3	7.7	-16.1	-13.8
8.3	7.7	-16.6	-14.4
8.3	7.2	-17.7	-15.5
8.3	7.7	-16.1	-14.4
8.2	7.7	-13.8	-12.2
8.2	7.7	-13.8	-12.7
8.2	9.4	-15.9	-12.7
8.1	8.9	-14.4	-13.7

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel — SOFI Panel Pyrometer Data

Emissivity Panel Thermocouple	Pyrometer	Left	Right
TOP 8.0	7.2	-8.3	-7.7
8.1	7.7	-8.3	-7.2
8.1	7.2	-7.2	-6.1
8.1	7.2	-8.3	-7.2
8.1	7.7	-8.3	-7.2
8.1	7.7	-7.7	-7.2
8.0	7.7	-7.2	-6.6
8.0	7.7	-8.3	-7.7
7.9	7.2	-8.2	-7.2
7.9	7.7	-8.3	-6.6

AFSS RUN # 5 DAY 2130

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right -FEG
TOP 7.9	7.7	-22.7	-24.4
8.0	7.7	-16.6	-13.8
8.0	8.0	-14.4	-14.4
7.9	7.7	-14.3	-12.2
8.0	8.3	-15.5	-14.3
7.9	8.3	-14.4	-14.4
7.9	7.7	-13.8	-12.7
7.9	7.3	-14.4	-12.9
7.9	7.7	-15.5	-12.7
7.8	8.3	-14.4	-13.3

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 7.9	7.7	-7.2	-7.2
7.9	7.7	-8.8	-8.8
7.9	7.7	-8.3	-7.7
7.9	7.2	-8.3	-7.5
7.9	7.7	-7.2	-6.1
7.9	7.7	-7.2	-6.6
7.9	7.2	-7.7	-7.2
7.9	7.2	-7.7	-7.2
7.9	7.7	-8.8	-7.2
7.8	7.7	-6.1	-6.6

AFSS RUN # 5 DAY 2130

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel | SOFI Panel Pyrometer Data

Thermocouple	Pyrometer	Left	Right -PEG
TOP 7.8	6.6	-21.8	-23.8
7.8	7.0	-18.3	-16.1
7.8	7.2	-15.5	-15.0
7.8	7.2	-15.5	-14.4
7.8	7.2	-17.1	-15.0
7.8	7.2	-16.6	-14.4
7.9	7.7	-14.4	-14.1
7.9	7.2	-14.7	-13.4
7.9	7.7	-16.1	-13.5
7.9	8.3	-13.7	-12.7

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel | SOFI Panel Pyrometer Data

Thermocouple	Pyrometer	Left	Right
TOP 7.6	7.5	-7.7	-7.2
7.7	7.5	-8.7	-7.7
7.7	7.2	-7.7	-7.0
7.7	7.6	-7.7	-6.6
7.7	7.7	-7.2	-7.2
7.7	7.2	-8.2	-7.2
7.7	7.2	-7.0	-6.6
7.7	7.2	-6.6	-7.2
7.7	7.2	-7.7	-7.7
7.7	7.7	-7.5	-6.1

AFSS RUN # 5 DAY 2130

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right -PEG
TOP 7.4	7.2	-26.3	-26.3
7.4	7.2	-18.9	-15.3
7.5	6.5	-18.3	-16.6
7.5	6.6	-15.5	-15.6
7.6	6.8	-18.6	-16.6
7.6	7.2	-18.1	-16.8
7.5	6.6	-16.6	-15.4
7.6	6.7	-17.3	-15.5
7.6	6.6	-16.6	-14.8
7.5	7.2	-13.5	-12.5

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 7.3	6.1	-8.2	-8.0
7.3	6.1	-10.1	-9.4
7.3	6.1	-9.4	-9.1
7.4	6.1	-9.4	-8.8
7.4	6.6	-9.4	-9.3
7.4	6.1	-9.6	-9.3
7.4	6.6	-8.8	-8.3
7.4	7.2	-9.4	-7.8
7.4	7.2	-9.9	-9.4
7.3	6.6	-8.3	-8.0

AFSS RUN # 5 DAY 2130

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel			SOFI Panel Pyrometer Data	
Thermocouple		Pyrometer	Left	Right -PEG
TOP	7.1	6.0	-25.5	-26.5
	7.1	6.1	-18.8	-13.6
	7.2	6.6	-18.8	-17.7
	7.2	6.6	-17.7	-17.4
	7.2	6.6	-19.4	-18.8
	7.2	7.2	-17.7	-19.4
	7.2	7.2	-16.1	-15.5
	7.2	7.2	-17.2	-15.0
	7.2	7.2	-17.7	-13.8
	7.2	7.0	-13.8	-12.7

TEST TIME 225.0 MINS

SIDE B

Emissivity Panel			SOFI Panel Pyrometer Data	
Thermocouple		Pyrometer	Left	Right
TOP	6.9	7.2	-7.2	-5.5
	7.0	6.6	-8.3	-7.7
	7.0	6.6	-8.8	-8.3
	7.0	7.2	-8.3	-7.2
	7.1	7.2	-7.7	-6.1
	7.1	6.6	-8.0	-6.6
	7.0	7.2	-7.7	-6.6
	7.1	6.6	-8.3	-7.2
	7.0	7.2	-8.3	-6.6
	7.0	7.2	-7.9	-6.6

AFSS RUN # 5 DAY 2130

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right -PEG
TOP	6.8	7.2	-24.6	-25.7
	6.9	7.2	-16.5	-15.5
	6.9	6.6	-17.7	-16.1
	6.9	7.2	-17.2	-16.1
	6.9	7.2	-18.3	-17.7
	6.9	7.2	-16.6	-17.2
	6.9	7.2	-16.1	-15.0
	6.9	7.2	-16.1	-16.0
	6.9	7.2	-16.1	-13.8
	6.9	7.2	-15.2	-12.2

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	6.6	7.2	-6.8	-7.2
	6.7	7.2	-7.7	-7.2
	6.7	7.2	-7.7	-6.1
	6.7	7.2	-7.7	-6.6
	6.8	7.2	-7.2	-7.7
	6.8	7.3	-9.4	-7.7
	6.8	7.5	-8.8	-8.3
	7.0	7.7	-7.7	-7.7
	7.1	7.7	-8.3	-7.7
	7.0	7.7	-8.8	-6.6

AFSS RUN # 5 DAY 2130

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right -PEG
TOP	6.4	6.6	-20.7	-23.8
	6.5	6.1	-15.5	-15.0
	6.6	7.2	-18.3	-18.3
	6.6	7.7	-16.1	-13.5
	6.6	7.2	-18.3	-17.2
	6.6	7.2	-18.3	-17.2
	6.7	7.2	-15.7	-15.0
	6.7	7.2	-16.6	-16.2
	6.7	7.2	-16.6	-13.3
	6.7	7.7	-13.6	-11.9

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	6.4	6.6	-6.1	-6.1
	6.5	7.2	-8.3	-6.6
	6.5	7.0	-8.2	-7.2
	6.5	7.2	-6.6	-6.1
	6.6	7.7	-7.2	-6.6
	6.6	7.7	-7.7	-7.2
	6.6	7.2	-6.6	-6.1
	6.7	7.2	-7.2	-6.6
	6.7	7.2	-7.2	-7.2
	6.6	7.7	-7.2	-6.1

AFSS RUN #6 DAY 2133

Test Time (min)	4 Meter Dewcell Dew point	4 Meter Dewcell Temp	1 Meter Dewcell Dew point	1 Meter Dewcell Temp	Radiometers mW/cm 2 West	Radiometers mW/cm 2 East
0.0	8.8 C	10.8 C	9.7 C	9.5 C	0.000	0.000
5.0	9.1	10.8	9.7	9.5	0.000	0.000
10.0	9.4	10.6	9.7	9.7	0.000	0.000
15.0	9.2	10.5	9.7	9.6	0.230	0.690
20.0	9.5	10.0	9.6	9.4	0.920	1.609
25.0	8.8	10.1	9.4	9.3	1.839	3.448
30.0	9.5	10.0	9.2	9.3	3.678	5.057
35.0	9.2	9.7	9.3	9.2	4.368	5.977
40.0	9.1	9.4	8.9	9.0	4.368	6.207
45.0	9.2	9.2	8.8	8.8	3.908	5.747
50.0	9.1	9.3	8.5	8.6	3.678	5.517
55.0	8.6	9.3	8.6	8.6	3.678	5.057
60.0	7.9	9.3	8.5	8.5	3.448	5.057
65.0	8.5	9.4	8.9	8.5	3.218	4.598
70.0	8.5	9.1	8.6	8.5	2.988	4.368
75.0	8.5	9.0	8.4	8.4	2.988	4.368
80.0	8.5	8.9	8.2	8.1	2.988	4.138
85.0	8.5	8.7	8.2	8.2	2.759	3.908
90.0	8.2	8.8	8.5	8.3	2.988	3.908
95.0	8.7	8.5	8.2	8.1	2.759	3.908
100.0	8.5	8.3	8.3	8.1	2.759	3.678
105.0	8.5	8.5	8.1	8.0	2.529	3.908
110.0	8.3	8.4	8.1	7.9	2.759	3.448
115.0	8.4	8.4	8.2	7.9	2.759	3.678
120.0	8.4	8.0	8.1	7.9	2.529	3.448
125.0	8.2	7.9	7.9	7.7	2.529	3.448
130.0	7.9	8.0	8.0	7.8	2.529	3.448
135.0	8.0	7.9	7.7	7.5	2.529	3.448
140.0	7.7	8.0	7.6	7.5	2.529	3.448
145.0	8.0	8.0	7.7	7.5	2.529	3.448
150.0	7.9	7.9	7.6	7.4	2.299	3.448
155.0	7.7	7.9	7.5	7.3	2.529	3.448
160.0	7.7	7.8	7.6	7.4	2.299	3.218
165.0	7.6	7.9	7.5	7.4	2.299	3.448
170.0	7.6	7.8	7.4	7.3	2.299	3.218
175.0	7.6	7.6	7.3	7.2	2.299	3.218
180.0	7.5	7.5	7.2	7.1	2.299	3.218
185.0	7.7	7.5	7.2	7.1	2.299	3.448
190.0	7.6	7.5	7.1	7.1	2.299	3.218
195.0	7.5	7.4	7.0	7.0	2.299	3.218
200.0	7.3	7.5	7.2	7.1	2.069	3.218
205.0	6.8	7.3	6.7	6.9	2.069	3.218
210.0	6.7	7.5	6.4	6.8	2.299	3.448
215.0	6.7	7.5	6.8	7.0	2.299	3.448
220.0	6.8	7.4	6.8	6.8	2.069	3.448
225.0	7.0	7.4	6.7	6.8	2.299	3.678
230.0	7.0	7.3	6.7	6.6	2.299	3.908
235.0	7.1	7.1	6.7	6.6	2.299	3.908
240.0	6.7	7.1	6.7	6.5	2.069	3.678
245.0	7.0	7.0	6.7	6.6	2.299	3.678
250.0	7.0	6.9	6.6	6.3	2.069	3.678
255.0	6.9	6.8	6.6	6.5	2.069	3.678
260.0	6.8	6.8	6.5	6.4	2.069	3.678
265.0	6.9	6.7	6.6	6.4	2.069	3.678
270.0	6.7	6.7	6.3	6.2	2.069	3.908
275.0	6.5	6.7	6.3	6.2	2.069	3.678
280.0	6.8	6.6	6.2	6.0	2.069	3.678
285.0	6.6	6.4	6.3	6.1	2.069	3.678
290.0	6.6	6.4	6.3	6.1	2.069	3.678

AFSS RUN #6 DAY 2133

Test Time (min)	Ceiling East	Ceiling West	Floor East	Floor West	Plastic Walls N	Plastic Walls S	Plastic Walls E	Plastic Walls W
0.0	7.9 C	9.2 C	10.8C	11.4C	10.3C	10.4C	10.2C	10.3C
5.0	7.7	9.2	10.8	11.4	10.2	10.3	10.2	10.3
10.0	7.5	9.0	10.8	11.4	10.1	10.2	10.1	10.2
15.0	7.4	8.8	10.7	11.3	9.9	10.1	9.9	10.0
20.0	7.4	8.7	10.6	11.3	9.9	10.0	9.8	9.9
25.0	7.3	8.7	10.5	11.3	9.7	9.8	9.7	9.7
30.0	7.0	8.7	10.5	11.3	9.6	9.7	9.5	9.6
35.0	6.8	8.5	10.4	11.3	9.4	9.6	9.3	9.4
40.0	6.6	8.3	10.3	11.2	9.2	9.3	9.2	9.1
45.0	6.9	8.2	10.3	11.3	9.1	9.3	8.9	9.1
50.0	6.7	8.2	10.2	11.2	8.9	9.1	8.8	8.8
55.0	6.2	7.9	10.2	11.2	8.8	9.0	8.8	8.7
60.0	6.3	7.9	10.1	11.1	8.7	8.9	8.7	8.6
65.0	6.2	7.8	10.1	11.1	8.7	8.9	8.8	8.6
70.0	5.8	7.6	10.0	11.0	8.6	8.8	8.6	8.4
75.0	5.5	7.4	9.9	11.0	8.6	8.7	8.4	8.3
80.0	5.8	7.6	9.9	11.0	8.6	8.7	8.3	8.4
85.0	5.9	7.3	9.9	10.9	8.4	8.6	8.3	8.2
90.0	5.6	7.3	9.8	10.9	8.3	8.6	8.3	8.2
95.0	5.9	7.4	9.8	10.9	8.2	8.5	8.3	8.2
100.0	5.8	7.4	9.7	10.8	8.1	8.4	8.1	7.9
105.0	5.7	7.3	9.7	10.8	8.1	8.4	8.2	8.1
110.0	5.3	7.1	9.7	10.7	8.1	8.3	8.0	7.9
115.0	5.2	7.1	9.7	10.7	7.9	8.2	8.1	7.9
120.0	5.1	6.9	9.6	10.7	7.8	8.1	8.1	7.8
125.0	4.9	6.8	9.5	10.6	7.7	7.9	7.9	7.7
130.0	4.9	6.7	9.4	10.6	7.7	8.0	7.8	7.6
135.0	5.2	6.7	9.4	10.5	7.6	7.8	7.6	7.4
140.0	5.1	6.8	9.4	10.4	7.6	7.8	7.5	7.4
145.0	4.9	6.6	9.4	10.4	7.4	7.7	7.4	7.3
150.0	4.8	6.6	9.0	10.4	7.3	7.7	7.4	7.3
155.0	4.9	6.5	9.1	10.3	7.3	7.6	7.4	7.3
160.0	4.6	6.4	9.1	10.3	7.2	7.5	7.3	7.2
165.0	4.3	6.2	8.3	10.3	7.2	7.4	7.4	7.1
170.0	4.4	6.2	8.4	10.2	7.1	7.4	7.3	7.1
175.0	4.2	6.1	8.2	10.2	7.0	7.3	7.2	7.0
180.0	4.1	6.1	8.3	10.1	6.9	7.3	7.1	7.0
185.0	4.3	6.1	8.2	10.1	6.9	7.2	7.0	6.9
190.0	4.1	6.1	8.3	10.1	6.9	7.2	7.1	6.9
195.0	3.9	5.9	8.2	10.1	6.9	7.2	7.1	6.8
200.0	3.7	5.9	8.1	10.1	6.9	7.3	7.1	6.9
205.0	3.7	5.7	7.7	10.0	7.0	7.1	6.9	6.9
210.0	3.7	5.6	8.1	10.0	6.9	7.2	6.9	6.8
215.0	3.5	5.7	8.6	9.9	6.9	7.1	7.0	6.8
220.0	3.6	5.7	7.6	9.9	6.8	6.9	6.8	6.7
225.0	3.8	5.7	6.6	9.8	6.8	6.8	6.7	6.7
230.0	3.7	5.6	6.5	9.8	6.7	6.8	6.5	6.5
235.0	3.6	5.5	6.4	9.8	6.7	6.7	6.5	6.4
240.0	3.6	5.6	6.4	9.8	6.6	6.7	6.6	6.4
245.0	3.3	5.4	6.3	9.7	6.6	6.6	6.3	6.4
250.0	3.8	5.6	7.6	9.7	6.4	6.5	6.2	6.2
255.0	3.4	5.5	6.4	9.7	6.4	6.5	6.3	6.3
260.0	3.2	5.3	6.6	9.6	6.3	6.5	6.3	6.3
265.0	3.2	5.4	6.6	9.6	6.2	6.4	6.3	6.2
270.0	3.3	5.3	6.7	9.6	6.1	6.2	6.1	6.1
275.0	3.2	5.2	6.8	9.6	6.1	6.3	6.1	6.1
280.0	3.3	5.2	6.8	9.5	6.0	6.2	5.9	5.9
285.0	3.0	5.0	6.8	9.5	5.9	6.2	5.9	5.9
290.0	3.0	4.9	6.9	9.4	5.8	6.2	5.8	5.8

AFSS RUN #6 DAY 2133

Test Time (min)	Thermocouple Readout by Position SIDE A 1	2	3	4	5	6	7	8
0.0	10.6	10.5	10.3	10.1	10.3	10.3	10.1	9.9
5.0	10.6	10.5	10.4	10.5	10.2	10.3	10.2	10.1
10.0	10.3	10.1	9.5	9.1	9.9	10.1	9.8	8.9
15.0	9.2	8.6	6.2	2.8	8.8	8.8	7.9	2.4
20.0	7.9	6.7	2.3	-1.7	7.6	6.9	5.2	-0.3
25.0	5.8	3.0	-4.3	-1.8	5.8	3.9	-0.2	-1.1
30.0	2.6	-3.4	-3.1	-3.2	3.4	1.7	-0.6	-1.6
35.0	-3.5	-4.2	-4.7	-3.9	-0.2	0.7	-0.7	-2.0
40.0	-5.7	-4.1	-5.4	-4.3	-1.6	-0.9	-1.4	-2.2
45.0	-3.2	-6.6	-6.5	-4.8	-2.8	-1.3	-1.7	-2.5
50.0	-5.2	-9.7	-7.6	-5.7	-3.2	-1.9	-2.6	-2.9
55.0	-6.9	-9.7	-7.4	-5.7	-3.7	-2.4	-3.0	-3.3
60.0	-8.2	-10.7	-8.4	-6.1	-3.9	-2.9	-3.1	-3.8
65.0	-8.3	-10.8	-8.3	-5.9	-3.9	-3.5	-2.9	-4.1
70.0	-8.9	-10.6	-7.5	-5.2	-4.3	-3.3	-2.8	-4.1
75.0	-9.1	-11.2	-8.6	-6.1	-4.3	-3.7	-3.1	-4.3
80.0	-9.1	-11.3	-8.7	-5.9	-4.5	-3.9	-3.1	-4.1
85.0	-9.2	-11.3	-7.7	-4.6	-4.4	-3.6	-3.0	-3.5
90.0	-9.4	-11.9	-9.2	-5.8	-4.4	-4.2	-3.4	-4.0
95.0	-9.4	-12.6	-9.4	-6.4	-4.7	-4.3	-3.4	-4.6
100.0	-10.1	-13.0	-9.7	-6.4	-5.3	-4.4	-3.8	-4.7
105.0	-10.4	-13.2	-10.0	-6.4	-4.9	-4.8	-4.0	-4.6
110.0	-10.3	-13.2	-9.3	-5.8	-5.5	-4.8	-3.6	-4.3
115.0	-10.3	-13.5	-10.2	-7.0	-5.3	-5.2	-3.9	-4.8
120.0	-10.9	-14.3	-10.7	-7.2	-5.2	-5.5	-4.3	-5.1
125.0	-10.7	-14.3	-10.4	-7.1	-6.1	-5.5	-4.2	-5.4
130.0	-11.3	-14.9	-10.8	-7.0	-5.8	-5.6	-4.3	-5.7
135.0	-11.4	-15.2	-11.4	-7.2	-6.0	-6.0	-4.6	-5.7
140.0	-11.6	-15.4	-10.9	-6.9	-5.8	-5.9	-4.5	-5.6
145.0	-12.1	-15.7	-11.6	-7.3	-5.9	-6.3	-4.8	-5.8
150.0	-11.7	-16.3	-11.6	-6.9	-5.6	-6.6	-4.3	-5.2
155.0	-11.2	-16.4	-12.2	-7.6	-6.2	-6.3	-4.6	-5.6
160.0	-12.0	-16.8	-12.5	-7.8	-6.4	-6.9	-5.2	-6.0
165.0	-12.3	-17.3	-12.5	-8.0	-6.4	-6.8	-5.3	-6.4
170.0	-12.8	-17.7	-12.7	-8.0	-6.6	-6.9	-5.4	-6.4
175.0	-13.2	-18.1	-12.9	-8.2	-6.8	-7.2	-5.4	-6.6
180.0	-13.1	-18.6	-13.1	-8.6	-6.8	-7.3	-5.6	-6.6
185.0	-12.9	-18.5	-13.3	-8.1	-6.5	-7.6	-5.5	-6.7
190.0	-13.2	-18.6	-13.6	-8.6	-5.9	-7.2	-5.6	-6.9
195.0	-13.4	-18.9	-13.7	-8.8	-6.8	-7.7	-6.0	-7.1
200.0	-14.2	-19.2	-13.6	-9.0	-7.4	-8.8	-6.3	-7.1
205.0	-12.8	-19.4	-13.6	-8.7	-7.2	-8.6	-6.1	-7.2
210.0	-12.5	-18.9	-13.3	-6.8	-7.2	-8.0	-5.8	-7.0
215.0	-13.3	-19.3	-13.5	-8.4	-7.1	-8.7	-6.1	-7.2
220.0	-13.1	-20.0	-14.1	-9.1	-7.0	-8.7	-6.1	-7.6
225.0	-13.3	-20.3	-14.6	-9.3	-6.9	-8.6	-6.2	-7.7
230.0	-13.3	-20.7	-14.9	-9.3	-6.5	-8.9	-6.4	-7.7
235.0	-13.2	-20.9	-15.1	-9.8	-6.6	-8.8	-6.5	-7.9
240.0	-13.4	-21.3	-15.1	-9.7	-7.0	-9.0	-6.4	-8.0
245.0	-13.6	-21.4	-15.2	-9.8	-7.4	-9.4	-6.8	-8.1
250.0	-13.3	-21.5	-15.8	-9.4	-7.4	-9.4	-7.2	-7.8
255.0	-13.8	-22.1	-16.1	-9.9	-7.2	-9.6	-7.3	-8.3
260.0	-13.2	-22.4	-16.2	-10.1	-7.5	-9.7	-7.1	-8.6
265.0	-13.2	-22.5	-16.4	-10.2	-7.7	-9.6	-7.1	-8.7
270.0	-13.6	-22.9	-16.7	-10.1	-6.8	-10.0	-7.2	-8.8
275.0	-14.1	-22.9	-16.6	-10.2	-6.9	-10.1	-7.3	-8.7
280.0	-14.2	-23.4	-16.4	-9.0	-7.1	-10.4	-7.4	-8.8
285.0	-14.3	-23.6	-16.6	-10.0	-7.3	-10.3	-7.7	-9.1
290.0	-14.3	-23.9	-16.9	-10.5	-7.5	-10.5	-7.7	-9.2

AFSS RUN #6 DAY 2133

Test Time (min)	Thermocouple Readout by Position SIDE B 1 in 11	12	13	14	15	16	17	18
0.0	10.3	10.6	10.6	10.3	10.3	10.6	10.2	10.3
5.0	10.2	10.6	10.6	10.3	10.3	10.6	10.3	10.4
10.0	10.2	10.3	10.2	9.8	10.2	10.3	9.9	10.0
15.0	9.7	9.2	8.2	5.4	9.7	9.4	8.0	6.4
20.0	8.7	7.3	5.1	0.1	8.9	8.0	5.3	1.5
25.0	7.5	4.3	-0.2	-1.0	7.7	5.9	0.8	-0.3
30.0	5.9	-1.2	-2.2	-1.4	6.0	2.1	-1.9	-0.8
35.0	2.5	-4.1	-2.3	-1.1	2.9	-2.3	-2.2	-1.1
40.0	0.0	-4.7	-2.4	-1.2	-0.9	-3.5	-2.6	-1.5
45.0	-1.3	-4.8	-2.1	-0.7	-2.9	-3.7	-2.3	-1.6
50.0	-2.1	-4.8	-1.2	-0.4	-3.8	-3.8	-2.4	-1.7
55.0	-2.0	-4.4	-1.3	-0.6	-3.9	-4.2	-2.6	-1.8
60.0	-2.1	-4.7	-1.8	-0.9	-4.2	-4.1	-2.3	-1.6
65.0	-1.8	-2.6	-2.2	-0.9	-4.1	-4.1	-2.3	-1.4
70.0	-1.2	-4.2	-2.1	-1.1	-3.9	-3.9	-2.3	-1.1
75.0	-1.3	-4.8	-2.8	-2.1	-3.7	-3.9	-2.6	-1.2
80.0	-1.4	-4.5	-2.9	-2.2	-3.7	-3.7	-2.8	-1.4
85.0	-0.8	-4.8	-3.0	-2.6	-2.8	-4.3	-3.2	-1.3
90.0	-0.4	-4.4	-3.1	-2.6	-2.2	-4.3	-3.1	-1.7
95.0	-0.5	-5.5	-3.3	-2.7	-2.4	-4.2	-3.3	-1.9
100.0	-0.5	-5.7	-3.8	-2.9	-2.6	-4.7	-3.4	-2.1
105.0	-0.7	-5.4	-3.3	-1.9	-2.8	-4.4	-3.1	-1.6
110.0	-0.7	-5.9	-3.8	-2.8	-2.9	-4.6	-3.6	-2.4
115.0	-1.0	-5.9	-4.0	-3.1	-3.3	-4.9	-3.6	-2.4
120.0	-1.4	-6.4	-4.6	-3.3	-3.7	-5.1	-3.9	-2.6
125.0	-2.0	-6.7	-4.7	-3.6	-4.2	-5.1	-3.8	-2.6
130.0	-2.2	-6.5	-4.7	-3.7	-4.2	-5.6	-4.1	-2.6
135.0	-2.5	-7.1	-4.9	-3.6	-4.1	-5.3	-3.8	-2.6
140.0	-2.7	-6.9	-5.0	-3.7	-4.3	-5.4	-4.2	-2.8
145.0	-3.0	-7.2	-5.1	-3.8	-4.8	-5.7	-4.4	-2.9
150.0	-2.9	-6.9	-5.0	-4.1	-4.9	-5.6	-4.4	-2.9
155.0	-2.7	-7.6	-5.5	-4.2	-5.1	-5.8	-4.7	-3.3
160.0	-2.9	-7.4	-5.5	-4.1	-4.9	-5.9	-4.6	-3.2
165.0	-3.3	-7.5	-5.8	-4.4	-5.4	-5.9	-4.7	-3.7
170.0	-3.4	-8.1	-6.0	-4.7	-5.3	-6.3	-4.8	-3.7
175.0	-3.5	-8.2	-6.1	-4.7	-5.4	-6.6	-4.7	-3.6
180.0	-3.6	-8.6	-6.6	-5.1	-5.5	-6.6	-5.2	-3.9
185.0	-3.7	-8.5	-6.7	-4.7	-5.7	-6.4	-5.1	-3.9
190.0	-3.6	-8.7	-6.7	-4.9	-5.5	-6.8	-5.2	-3.9
195.0	-3.6	-8.6	-6.8	-4.9	-5.7	-6.7	-5.5	-4.1
200.0	-4.2	-8.7	-6.9	-5.0	-5.8	-6.9	-5.6	-4.1
205.0	-3.3	-7.4	-5.3	-3.3	-5.1	-6.0	-3.4	-2.6
210.0	-3.6	-9.0	-6.8	-4.9	-5.4	-7.0	-5.2	-4.0
215.0	-3.8	-9.3	-7.2	-5.2	-5.7	-7.0	-5.3	-4.2
220.0	-4.1	-9.3	-7.4	-5.5	-5.8	-7.3	-5.7	-4.3
225.0	-3.8	-9.7	-7.6	-5.7	-5.6	-7.4	-5.9	-4.6
230.0	-4.1	-9.8	-7.6	-5.6	-5.9	-7.6	-5.9	-4.7
235.0	-4.1	-9.8	-7.7	-5.6	-5.8	-7.6	-6.0	-4.7
240.0	-4.2	-9.9	-7.8	-5.7	-5.6	-7.4	-5.9	-4.8
245.0	-4.1	-10.1	-8.1	-5.8	-5.9	-7.7	-6.1	-5.0
250.0	-4.2	-10.2	-8.2	-5.9	-6.1	-7.9	-6.2	-5.0
255.0	-4.2	-10.3	-8.3	-6.1	-6.0	-8.1	-5.9	-4.8
260.0	-4.2	-10.4	-8.7	-6.3	-6.0	-8.3	-6.3	-5.0
265.0	-4.1	-10.4	-8.8	-6.4	-5.9	-8.1	-6.5	-5.2
270.0	-4.3	-10.8	-9.1	-6.5	-6.2	-8.4	-6.8	-5.4
275.0	-4.6	-10.7	-9.0	-6.6	-6.4	-8.7	-6.3	-5.3
280.0	-4.4	-11.1	-9.2	-6.7	-6.3	-8.7	-6.6	-5.5
285.0	-4.5	-11.1	-9.4	-6.9	-6.3	-8.8	-6.9	-5.6
290.0	-4.7	-11.2	-9.4	-7.2	-6.6	-8.9	-7.2	-5.7

AFSS RUN #6 DAY 2133

Test Time (min)	Temperature at SOFI Depth: 16.7mm (.66in)	14.0mm (.55in)	32.5mm (1.28in)
0.0	10.3 C	10.3 C	10.1 C
5.0	11.1	10.1	10.4
10.0	6.3	6.2	9.8
15.0	-4.2	0.2	8.6
20.0	-7.2	-6.0	6.4
25.0	-5.8	-9.5	2.7
30.0	-6.5	-14.1	2.1
35.0	-8.4	-14.2	0.7
40.0	-9.2	-15.1	0.1
45.0	-10.2	-15.5	0.4
50.0	-10.7	-16.5	-0.3
55.0	-11.2	-16.7	0.0
60.0	-11.6	-17.4	0.0
65.0	-11.6	-17.1	-0.3
70.0	-11.6	-17.9	0.0
75.0	-12.5	-18.0	-0.5
80.0	-12.6	-18.3	-0.6
85.0	-13.1	-15.8	-0.7
90.0	-13.3	-18.8	-0.5
95.0	-13.9	-19.7	-0.6
100.0	-14.0	-19.9	-0.6
105.0	-13.7	-18.5	-0.2
110.0	-14.6	-20.2	-0.4
115.0	-15.0	-21.3	-0.7
120.0	-15.4	-21.9	-1.0
125.0	-15.6	-21.9	-0.5
130.0	-15.6	-22.5	-1.0
135.0	-15.4	-21.5	-0.8
140.0	-16.1	-22.9	-1.1
145.0	-16.4	-21.1	-0.9
150.0	-16.6	-21.7	-0.8
155.0	-17.1	-23.7	-1.1
160.0	-17.1	-24.3	-0.9
165.0	-17.2	-24.8	-1.[illegible]
170.0	-17.5	-25.3	-1.2
175.0	-17.5	-25.9	-1.4
180.0	-18.2	-26.1	-1.7
185.0	-18.3	-26.1	-2.2
190.0	-18.3	-26.8	-1.3
195.0	-18.7	-27.1	-2.1
200.0	-18.4	-27.6	-1.5
205.0	-16.6	-27.6	-0.8
210.0	-18.7	-25.8	-1.8
215.0	-19.2	-27.8	-2.5
220.0	-19.6	-28.6	-2.7
225.0	-19.8	-29.0	-2.7
230.0	-20.0	-29.1	-2.7
235.0	-20.0	-29.4	-2.6
240.0	-20.0	-30.0	-2.7
245.0	-20.4	-30.2	-2.7
250.0	-20.6	-30.3	-2.9
255.0	-20.2	-30.7	-2.8
260.0	-20.6	-31.2	-2.9
265.0	-20.8	-31.3	-3.0
270.0	-21.2	-31.7	-3.1
275.0	-21.2	-31.8	-3.1
280.0	-21.4	-30.7	-3.5
285.0	-21.5	-32.2	-3.4
290.0	-21.8	-32.2	-3.3

AFSS RUN # 6 DAY 2133

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	11.1	10.0	8.8
10.0	10.1	10.0	10.0
10.0	10.0	10.0	10.0
10.0	10.0	10.0	10.0
10.0	11.1	10.0	10.3
10.0	10.5	8.8	9.7
9.9	10.0	8.3	8.6
9.9	11.1	6.6	7.7
9.9	10.6	4.4	4.8
9.8	10.5	-3.3	-3.3

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	11.1	9.4	10.0
9.9	11.1	10.0	10.0
9.9	11.1	9.4	9.4
9.9	11.1	8.8	10.0
9.9	11.1	8.8	9.4
9.9	11.1	7.2	8.3
9.8	11.1	6.6	7.2
9.8	10.8	4.4	5.0
9.8	10.5	1.5	1.6
9.8	11.1	-0.5	0.5

AFSS RUN # 6 DAY 2133

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel — SOFI Panel Pyrometer Data

Thermocouple	Pyrometer	Left	Right
TOP	9.4	-8.6	-15.0
9.7	8.6	-4.4	-4.4
9.6	10.7	-7.7	-7.7
9.6	9.2	-7.6	-6.6
9.6	9.8	-8.4	-7.8
9.6	10.0	-7.7	-7.7
9.6	10.0	-8.3	-7.2
9.6	9.4	-9.3	-7.7
9.6	9.4	-9.4	-7.2
9.5	9.2	-6.6	-2.5

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel — SOFI Panel Pyrometer Data

Thermocouple	Pyrometer	Left	Right
TOP	8.7	1.6	-0.5
9.2	8.3	-1.1	0.0
9.2	8.3	-1.1	0.0
9.2	9.6	-1.1	-0.5
9.2	9.4	-0.6	-0.8
9.2	9.4	-1.1	-0.4
9.2	8.3	-0.7	1.3
9.2	8.3	1.3	1.6
9.2	8.3	1.6	1.7
9.1	9.0	0.7	1.1

AFSS RUN # 6 DAY 2133

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	10.0	-17.7	-16.1
8.8	10.0	-11.4	-9.4
8.8	10.0	-8.8	-10.0
8.8	9.4	-9.4	-8.8
8.8	10.0	-9.4	-10.5
8.8	9.8	-12.7	-10.0
8.8	10.0	-7.7	-9.4
8.7	9.6	-9.4	-9.4
8.7	8.8	-9.4	-8.3
8.7	10.0	-8.2	-9.2

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	7.2	-4.4	-4.4
8.6	7.2	-5.5	-5.0
8.6	7.2	-5.5	-4.4
8.6	7.2	-5.0	-4.3
8.6	7.2	-5.0	-3.3
8.6	7.5	-3.8	-5.0
8.6	7.2	-3.8	-3.7
8.6	7.2	-4.4	-4.3
8.6	7.2	-5.0	-4.4
8.5	7.2	-5.0	-3.5

AFSS RUN # 6 DAY 2133

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	6.6	-20.2	-19.4
8.3	7.2	-13.7	-11.6
8.3	7.2	-15.0	-12.2
8.3	7.2	-13.8	-11.6
8.3	7.2	-15.5	-12.7
8.3	7.7	-13.3	-12.2
8.3	7.7	-9.4	-9.0
8.4	7.7	-11.8	-11.6
8.4	7.2	-11.3	-8.8
8.3	7.5	-11.1	-9.2

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	6.6	-3.3	-2.2
8.2	7.7	-5.0	-4.0
8.1	7.5	-2.8	-2.6
8.1	7.2	-5.0	-3.7
8.2	7.2	-3.8	-2.7
8.2	7.2	-3.8	-3.2
8.2	7.7	-2.5	-2.2
8.2	7.7	-2.2	-2.2
8.2	8.3	-3.8	-3.1
8.2	7.8	-3.3	-2.3

AFSS RUN # 6 DAY 2133

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	7.5	-18.8	-20.0
7.9	7.2	-10.4	-11.1
7.9	7.2	-11.1	-11.1
7.9	7.2	-9.4	-10.5
7.9	7.7	-11.6	-10.9
8.0	8.3	-10.0	-8.5
7.9	7.7	-9.4	-9.6
8.0	7.6	-9.7	-11.1
8.0	7.8	-11.1	-6.8
7.9	8.3	-8.2	-9.2

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	7.1	-4.4	-2.7
7.7	7.2	-5.0	-4.4
7.7	7.2	-5.0	-4.1
7.7	7.2	-4.4	-3.8
7.7	7.3	-5.0	-4.2
7.8	7.2	-4.8	-2.2
7.7	7.3	-2.2	-2.7
7.7	7.6	-2.2	-3.0
7.7	7.7	-3.5	-3.2
7.7	8.3	-4.4	-3.2

AFSS RUN # 6 DAY 2133

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	7.2	-19.0	-19.4
7.4	7.2	-13.3	-11.1
7.4	6.6	-12.7	-12.2
7.4	6.6	-11.1	-10.5
7.4	7.7	-14.4	-12.7
7.5	7.7	-13.8	-13.8
7.5	7.7	-11.3	-10.5
7.5	7.2	-12.2	-11.6
7.5	7.7	-12.2	-10.0
7.4	7.2	-9.4	-9.4

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	6.2	-5.5	-4.2
7.2	6.5	-6.1	-6.1
7.2	6.6	-6.1	-5.5
7.3	6.6	-6.1	-6.1
7.3	6.6	-5.5	-5.5
7.3	6.6	-6.1	-5.5
7.3	6.6	-5.0	-4.4
7.3	6.6	-5.5	-4.4
7.3	7.2	-6.6	-5.4
7.3	7.2	-6.1	-3.8

AFSS RUN # 6 DAY 2133

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	5.5	-14.2	-15.5
7.0	6.0	-11.1	-8.8
6.9	6.1	-11.1	-9.4
7.0	6.1	-11.1	-9.4
7.1	6.6	-12.7	-11.3
7.1	6.6	-11.6	-10.5
7.1	7.2	-9.4	-9.4
7.1	6.6	-8.8	-9.1
7.1	7.2	-8.2	-7.2
7.1	7.2	-6.6	-6.6

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	6.6	-2.7	-2.2
6.9	6.6	-3.3	-2.7
6.9	6.6	-3.3	-3.3
6.9	7.2	-4.2	-3.0
7.0	7.2	-2.7	-2.7
7.0	7.2	-3.2	-3.3
7.0	7.2	-3.3	-3.1
7.0	7.2	-3.3	-2.2
7.0	7.2	-3.8	-2.4
7.0	8.0	-2.7	-2.3

AFSS RUN # 6 DAY 2133

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	6.1	-16.2	-15.0
6.7	6.1	-11.6	-11.6
6.7	6.1	-12.7	-12.2
6.7	6.1	-12.2	-12.2
6.8	6.6	-13.3	-12.7
6.8	6.6	-11.6	-12.7
6.9	6.6	-10.5	-8.3
6.9	6.7	-10.5	-10.5
6.9	6.6	-9.4	-8.8
6.9	6.6	-8.8	-8.8

TEST TIME 225.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	6.6	-3.3	-3.3
6.6	6.3	-3.8	-3.8
6.6	6.6	-5.0	-3.8
6.7	7.2	-5.5	-3.8
6.7	7.2	-4.4	-4.4
6.8	6.6	-4.4	-4.4
6.8	7.2	-3.3	-2.7
6.8	7.2	-4.4	-3.6
6.8	7.2	-5.0	-3.3
6.8	7.2	-3.8	-2.7

AFSS RUN # 6 DAY 2133

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	6.1	-15.5	-15.0
6.4	6.2	-11.8	-9.4
6.4	6.6	-12.2	-10.5
6.5	6.6	-11.6	-10.5
6.6	6.6	-12.7	-11.6
6.6	6.6	-10.5	-12.2
6.6	6.6	-9.4	-8.3
6.6	6.6	-8.7	-9.4
6.6	6.6	-11.1	-8.8
6.6	6.6	-9.4	-8.3

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	6.1	-1.6	-2.2
6.3	6.1	-3.3	-3.3
6.3	6.6	-3.3	-3.3
6.3	6.6	-3.8	-3.3
6.4	6.6	-3.8	-3.3
6.4	6.6	-3.3	-3.3
6.4	6.6	-3.3	-2.7
6.4	7.2	-3.3	-2.7
6.4	7.2	-5.0	-3.3
6.4	7.2	-3.8	-2.2

AFSS RUN # 6 DAY 2133

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	5.5	-15.0	-14.4
6.1	5.5	-10.2	-9.4
6.1	6.6	-12.2	-10.0
6.1	6.1	-12.2	-11.1
6.2	6.6	-12.7	-12.2
6.2	6.6	-12.2	-11.6
6.2	6.6	-9.2	-8.8
6.2	6.5	-10.2	-10.5
6.2	6.6	-10.0	-9.4
6.2	6.6	-7.7	-8.3

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	6.1	-3.0	-2.7
5.9	6.1	-2.8	-3.0
5.9	6.1	-2.7	-3.3
5.9	6.6	-4.2	-3.0
6.0	6.6	-3.2	-1.6
6.0	6.6	-2.2	-1.6
6.0	7.1	-1.3	-1.6
6.0	6.6	-2.3	-2.7
6.0	6.6	-3.0	-2.2
6.0	7.2	-2.0	-1.6

AFSS RUN #7 DAY 2139

Test Time (min)	4 Meter Dewcell Dew point	4 Meter Dewcell Temp	1 Meter Dewcell Dew point	1 Meter Dewcell Temp	Radiometers W/cm 2 West	Radiometers W/cm 2 East
0.0	18.4 C	19.1 C	18.2 C	18.3 C	-0.230	-0.230
5.0	18.3	19.1	18.2	18.1	0.000	-0.230
10.0	17.9	19.1	18.1	18.0	0.000	0.230
15.0	17.9	19.0	18.0	17.8	0.690	1.149
20.0	17.9	18.7	17.8	17.7	1.379	2.529
25.0	17.8	18.6	17.7	17.5	2.759	5.517
30.0	17.6	18.4	17.6	17.4	4.368	6.437
35.0	17.3	18.3	17.4	17.2	4.598	6.437
40.0	17.6	18.2	17.4	17.1	4.368	6.207
45.0	17.6	17.9	17.3	17.0	4.138	5.977
50.0	17.0	17.9	17.2	16.9	3.908	5.517
55.0	17.3	17.9	17.1	16.9	3.678	5.057
60.0	17.3	18.0	17.2	16.8	3.448	4.828
65.0	17.5	17.7	17.1	16.7	3.218	4.598
70.0	17.3	17.6	17.1	16.8	3.218	4.138
75.0	17.3	17.5	17.0	16.8	2.988	3.908
80.0	17.2	17.3	16.9	16.7	2.988	3.908
85.0	17.3	17.4	16.9	16.6	2.759	3.448
90.0	17.3	17.3	16.8	16.6	2.529	3.448
95.0	17.3	17.3	16.8	16.6	2.529	3.218
100.0	17.2	17.3	16.8	16.5	2.299	3.218
105.0	17.2	17.2	16.8	16.5	2.299	3.218
110.0	17.2	17.2	16.8	16.5	2.299	2.988
115.0	17.0	17.2	16.9	16.5	2.299	2.988
120.0	17.2	17.2	16.8	16.5	2.299	2.759
125.0	17.2	17.1	16.8	16.4	2.299	2.759
130.0	17.3	16.9	16.8	16.4	2.299	2.759
135.0	17.3	16.9	16.8	16.4	2.069	2.988
140.0	17.3	16.8	16.7	16.3	2.069	2.988
145.0	17.3	16.8	16.9	16.4	2.069	2.988
150.0	17.2	16.7	16.7	16.3	2.069	2.988
155.0	17.2	16.6	16.7	16.3	2.069	2.988
160.0	17.2	16.6	16.7	16.2	2.069	2.759
165.0	17.1	16.5	16.6	16.2	1.839	2.759
170.0	17.2	16.5	16.5	16.1	1.839	2.759
175.0	17.1	16.5	16.6	16.2	2.069	2.069
180.0	17.1	16.5	16.5	16.1	4.138	5.517
185.0	17.1	16.5	16.5	16.1	3.678	4.598
190.0	17.1	16.6	16.6	16.1	3.448	4.598
195.0	17.0	16.5	16.6	16.0	3.218	4.368
200.0	17.0	16.4	16.5	16.1	2.988	3.908
205.0	16.9	16.4	16.5	16.1	2.759	3.908
210.0	16.9	16.5	16.5	16.0	2.759	4.138
215.0	16.9	16.5	16.4	15.7	2.529	3.908
220.0	16.9	16.4	16.4	15.7	2.759	3.908
225.0	16.9	16.4	16.4	15.7	2.759	3.908
230.0	16.8	16.4	16.4	15.6	2.759	3.678
235.0	16.9	16.3	16.3	15.7	2.759	3.448
240.0	16.8	16.3	16.3	15.7	2.759	2.759
245.0	16.8	16.3	16.3	15.6	2.759	1.839
250.0	16.8	16.2	16.3	15.6	2.759	2.529
255.0	16.7	16.1	16.2	15.5	2.529	2.988
260.0	16.7	16.0	16.2	15.6	2.529	2.988
265.0	16.7	16.0	16.1	15.5	2.529	3.218
270.0	16.7	15.9	16.0	15.4	2.299	3.218
275.0	16.7	16.0	16.1	15.5	2.299	2.988
280.0	16.6	15.9	16.0	15.4	2.299	2.988
285.0	16.6	15.8	15.9	15.3	2.299	2.988
290.0	16.6	15.9	15.9	15.4	2.299	2.988

AFSS RUN #7 DAY 2139

Test Time (min)	Ceiling East	Ceiling West	Floor East	Floor West	Plastic Walls N	Plastic Walls S	Plastic Walls E	Plastic Walls W
0.0	17.9C	19.2C	17.7C	17.4C	18.9C	18.8C	18.4C	19.2C
5.0	17.8	18.9	17.7	17.3	18.7	18.7	18.3	19.1
10.0	17.7	18.8	17.6	17.3	18.5	18.5	18.2	18.9
15.0	17.6	18.6	17.5	17.3	18.3	18.4	18.1	18.8
20.0	17.5	18.5	17.4	17.2	18.2	18.3	17.9	18.6
25.0	17.4	18.4	17.3	17.1	18.1	18.1	17.8	18.6
30.0	17.2	18.3	17.2	17.0	17.9	17.9	17.6	18.4
35.0	17.1	18.1	7.1	16.9	17.8	17.8	17.6	18.3
40.0	17.0	17.9	17.1	16.8	17.7	17.7	17.4	18.2
45.0	17.1	17.9	17.0	16.8	17.6	17.6	17.4	18.1
50.0	17.1	17.9	16.9	16.8	17.5	17.6	17.2	17.9
55.0	17.5	17.9	16.8	16.8	17.5	17.5	17.2	17.8
60.0	17.4	17.9	16.8	16.8	17.4	17.4	17.2	17.8
65.0	17.2	17.8	16.7	16.7	17.3	17.4	17.2	17.8
70.0	17.2	17.8	16.6	16.6	17.3	17.4	17.1	17.7
75.0	17.2	17.8	16.6	16.6	17.3	17.3	17.0	17.6
80.0	17.0	17.7	16.5	16.6	17.2	17.1	16.9	17.6
85.0	17.0	17.6	16.4	16.4	17.2	17.2	16.9	17.4
90.0	16.8	17.4	16.4	16.4	17.1	17.1	16.8	17.4
95.0	16.8	17.4	16.3	16.4	17.1	17.1	16.8	17.4
100.0	16.7	17.4	16.3	16.4	17.0	17.1	16.8	17.3
105.0	16.7	17.3	16.2	16.4	16.9	17.1	16.8	17.3
110.0	16.6	17.3	16.2	16.4	16.9	17.1	16.8	17.3
115.0	16.6	17.2	16.1	16.3	16.9	16.9	16.8	17.3
120.0	16.6	17.2	16.1	16.3	16.8	16.9	16.8	17.2
125.0	16.6	17.1	16.1	16.3	16.8	16.9	16.7	17.2
130.0	16.5	17.1	16.0	16.2	16.8	16.8	16.7	17.1
135.0	16.4	17.1	15.9	16.2	16.7	16.8	16.7	17.1
140.0	16.2	16.9	15.9	16.2	16.7	16.8	16.6	17.1
145.0	16.4	17.0	15.9	16.1	16.7	16.8	16.6	17.0
150.0	16.2	16.9	15.8	16.2	16.7	16.7	16.6	16.9
155.0	15.8	16.8	15.8	16.1	16.6	16.7	16.5	16.9
160.0	15.5	16.6	15.8	16.1	16.6	16.7	16.4	16.8
165.0	16.1	16.6	15.7	16.0	16.5	16.6	16.4	16.8
170.0	16.3	16.7	15.7	16.0	16.5	16.6	16.4	16.8
175.0	16.3	16.7	15.7	16.0	16.4	16.6	16.3	16.8
180.0	16.3	16.7	15.7	16.0	16.4	16.6	16.4	16.7
185.0	16.2	16.7	15.6	15.9	16.4	16.6	16.3	16.7
190.0	16.2	16.7	15.6	15.9	16.4	16.6	16.3	16.7
195.0	16.2	16.7	15.6	15.9	16.4	16.6	16.3	16.7
200.0	16.2	16.7	15.6	15.9	16.4	16.5	16.3	16.7
205.0	16.1	16.7	15.5	15.9	16.4	16.4	16.3	16.7
210.0	16.1	16.7	15.4	15.9	16.3	16.4	16.2	16.6
215.0	16.1	16.6	15.4	15.9	16.3	16.4	16.3	16.6
220.0	16.0	16.6	15.4	15.8	16.3	16.4	16.2	16.6
225.0	15.8	16.5	15.4	15.8	16.3	16.4	16.2	16.6
230.0	15.7	16.4	15.4	15.8	16.3	16.4	16.1	16.6
235.0	15.3	16.3	15.4	15.8	16.3	16.3	16.1	16.5
240.0	15.4	16.2	15.3	15.7	16.2	16.2	16.1	16.4
245.0	15.7	16.3	15.3	15.7	16.2	16.2	16.1	16.4
250.0	15.7	16.3	15.3	15.7	16.2	16.2	16.0	16.4
255.0	15.4	16.2	15.3	15.6	16.1	16.2	15.9	16.3
260.0	15.3	16.2	15.3	15.6	16.0	16.2	15.9	16.3
265.0	15.3	16.1	15.2	15.6	15.9	16.0	15.9	16.2
270.0	15.4	16.0	15.2	15.6	15.9	16.0	15.8	16.2
275.0	15.4	16.0	15.2	15.5	15.9	15.9	15.8	16.2
280.0	15.4	15.9	15.2	15.4	15.8	15.9	15.7	16.1
285.0	15.4	15.9	15.1	15.4	15.8	15.8	15.8	16.1
290.0	15.4	16.0	15.1	15.4	15.8	15.8	15.7	16.1

AFSS RUN #7 DAY 2139

Test Time (min)	Thermocouple Readout by Position SIDE A 1	2	3	4	5	6	7	8
0.0	19.6	18.9	18.7	18.6	19.8	18.8	18.7	18.5
5.0	19.3	18.8	18.5	18.3	19.6	18.7	18.6	18.2
10.0	18.6	17.6	16.1	14.7	18.8	17.5	17.2	14.6
15.0	17.2	15.7	12.5	5.6	17.4	15.7	14.3	7.8
20.0	15.0	13.0	5.1	4.2	15.8	13.2	9.4	5.9
25.0	12.3	8.7	2.2	4.1	13.6	9.0	7.4	6.1
30.0	7.8	1.9	2.2	4.3	9.7	6.0	7.4	5.9
35.0	1.7	1.2	2.7	3.6	6.1	5.4	7.1	5.7
40.0	1.2	1.2	2.6	3.9	5.3	5.2	6.7	5.8
45.0	1.1	1.2	2.7	1.1	5.2	5.7	6.6	6.1
50.0	0.8	1.1	2.4	3.7	5.7	4.8	6.5	5.4
55.0	1.6	1.1	1.8	3.3	6.4	5.2	7.0	5.7
60.0	1.1	1.0	2.2	6.5	5.9	4.6	6.1	5.3
65.0	0.8	0.6	2.1	6.3	5.0	4.3	6.1	5.4
70.0	0.8	0.5	2.3	4.0	5.1	4.1	6.3	6.0
75.0	0.8	0.3	2.1	9999.9	5.2	4.9	6.5	5.8
80.0	0.7	0.5	2.1	3.5	5.3	4.4	6.2	4.8
85.0	0.9	0.2	1.8	3.1	5.5	4.4	6.3	4.9
90.0	1.2	0.2	2.1	3.3	5.6	4.2	6.1	5.1
95.0	1.1	-0.1	2.2	2.9	5.4	4.2	6.2	4.7
100.0	1.1	-0.3	2.0	4.2	6.1	3.8	6.2	5.2
105.0	0.8	-0.1	1.9	3.3	5.6	3.9	6.3	5.1
110.0	0.5	-0.5	1.8	3.4	5.3	3.7	6.1	4.9
115.0	0.6	-0.4	1.9	3.7	5.3	4.0	6.4	5.2
120.0	0.4	-0.7	1.9	2.7	5.2	4.0	6.3	4.8
125.0	0.4	0.4	1.9	2.8	5.4	3.8	6.2	4.9
130.0	0.2	-0.7	2.1	3.3	5.2	3.6	6.6	5.1
135.0	0.4	-0.9	1.7	2.4	5.3	3.5	5.7	4.6
140.0	-0.1	-1.1	1.8	3.3	4.4	3.4	5.7	4.7
145.0	-0.4	-1.2	1.8	2.9	4.1	3.7	5.7	4.6
150.0	-0.6	-1.6	1.8	2.9	4.2	3.4	5.4	4.2
155.0	-0.4	-1.6	1.8	3.1	4.6	3.5	5.6	4.2
160.0	-0.7	-1.8	1.8	3.9	4.2	3.4	6.0	5.0
165.0	-0.1	-1.9	1.4	3.6	4.8	4.1	6.2	4.8
170.0	0.0	-1.8	1.3	2.8	4.7	3.9	5.6	4.4
175.0	-0.4	-1.5	1.6	2.8	4.4	3.2	5.9	4.7
180.0	0.5	-1.6	1.4	2.3	4.4	3.3	5.7	4.3
185.0	0.1	-1.7	1.4	2.8	3.9	2.9	5.5	4.3
190.0	1.1	-0.3	1.6	2.8	4.7	3.1	5.2	4.3
195.0	0.7	-0.1	1.2	2.4	4.3	3.1	5.7	4.4
200.0	1.1	-0.9	1.4	2.6	4.5	2.7	5.3	4.3
205.0	1.1	-1.1	1.3	2.4	4.6	2.5	5.2	4.2
210.0	1.1	-1.6	1.0	2.1	4.4	2.6	5.1	4.4
215.0	0.6	-1.7	1.3	2.6	4.3	2.8	5.1	4.1
220.0	0.9	-1.4	1.4	2.7	4.3	2.3	5.4	4.5
225.0	0.8	-1.2	1.6	2.9	4.2	2.6	5.8	4.5
230.0	0.7	-1.3	1.3	2.6	4.2	2.6	5.1	4.0
235.0	1.2	-1.5	1.2	2.5	4.7	2.4	5.4	4.1
240.0	1.4	-1.9	0.9	1.8	5.1	2.2	4.8	3.7
245.0	1.0	-1.7	1.2	2.3	4.9	2.2	5.3	4.1
250.0	1.0	-0.2	1.2	2.2	5.2	1.9	5.2	4.1
255.0	0.8	-1.8	1.1	2.2	4.8	2.1	5.0	3.8
260.0	0.6	-2.5	1.2	2.6	4.6	1.9	4.7	3.6
265.0	0.9	-2.7	1.0	2.3	3.9	1.7	4.7	3.7
270.0	0.1	-2.7	0.9	1.9	3.9	2.2	4.8	3.7
275.0	0.5	-2.7	0.8	1.8	3.5	1.7	4.7	3.8
280.0	0.7	-2.9	1.1	2.6	3.3	2.2	4.7	3.9
285.0	0.2	-2.8	0.6	2.3	3.4	1.9	4.4	3.6
290.0	0.2	-3.1	0.7	3.9	3.4	2.0	4.7	3.6

AFSS RUN #7 DAY 2139

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	19.6	19.2	18.9	18.7	19.7	20.5	18.9	18.7
5.0	19.4	19.0	18.7	18.4	19.5	20.2	18.7	18.4
10.0	18.9	18.2	17.2	15.9	13.1	18.8	17.3	16.4
15.0	17.9	16.3	14.4	10.1	18.1	17.6	15.0	11.5
20.0	16.6	14.2	9.5	9.1	16.8	16.8	11.4	9.9
25.0	14.8	10.6	7.3	8.1	14.9	16.6	7.9	8.2
30.0	12.4	6.1	6.7	7.9	12.7	16.5	6.7	7.8
35.0	8.4	5.2	6.2	7.7	8.3	16.1	6.2	7.5
40.0	7.1	4.8	6.5	7.8	6.1	15.9	6.1	7.6
45.0	7.6	4.6	6.4	7.8	5.9	15.5	6.5	7.3
50.0	7.1	4.7	6.2	7.4	5.4	15.4	5.9	7.1
55.0	7.0	4.7	6.1	7.3	5.8	15.0	6.6	7.8
60.0	7.0	4.4	6.2	7.3	5.6	15.2	5.5	7.4
65.0	6.8	4.5	6.1	7.5	5.2	15.3	5.8	8.7
70.0	7.4	4.4	6.3	7.5	5.4	15.1	6.0	7.1
75.0	7.0	4.7	6.4	7.7	5.4	14.8	6.3	7.8
80.0	7.1	4.2	5.5	6.9	5.6	14.6	6.2	7.2
85.0	6.6	4.4	5.9	7.3	5.3	14.2	6.1	8.2
90.0	6.6	3.7	5.4	6.9	5.2	14.2	5.7	7.1
95.0	6.6	4.2	5.6	6.9	5.2	14.2	6.7	7.7
100.0	7.2	4.2	5.7	6.8	5.5	13.8	5.9	7.6
105.0	6.8	4.3	5.7	7.1	5.3	13.8	5.4	6.8
110.0	6.0	3.9	5.6	6.8	4.9	14.1	4.8	6.9
115.0	6.8	4.1	5.3	6.7	5.3	14.1	5.1	7.1
120.0	6.2	3.9	5.9	7.7	5.1	14.4	5.8	7.0
125.0	5.8	3.8	5.4	6.9	4.7	14.1	5.3	8.2
130.0	5.8	3.7	5.3	6.8	4.4	13.9	5.3	6.7
135.0	6.8	3.8	5.6	6.9	4.8	13.6	6.1	7.5
140.0	6.0	3.7	5.4	6.6	4.3	13.8	5.6	6.7
145.0	6.1	3.6	5.2	6.8	4.4	14.0	5.0	6.9
150.0	5.7	3.4	5.2	7.1	4.0	14.4	5.0	6.9
155.0	5.7	3.5	5.4	6.8	3.9	13.8	4.8	6.6
160.0	5.8	3.6	5.3	7.1	3.8	13.7	5.5	7.3
165.0	6.2	3.2	5.1	6.8	4.1	13.4	5.2	6.6
170.0	5.5	3.1	5.1	6.4	3.8	13.3	5.2	6.3
175.0	5.4	3.2	5.1	6.4	3.9	13.2	5.7	6.7
180.0	5.5	3.2	4.9	7.2	4.1	13.3	5.0	7.0
185.0	5.4	3.3	5.2	6.4	3.8	13.7	4.9	6.5
190.0	6.3	3.1	5.0	6.6	4.5	13.3	5.1	6.5
195.0	6.1	3.2	4.9	6.6	4.6	13.7	5.1	6.8
200.0	6.5	3.2	4.8	5.9	4.8	13.8	5.8	6.7
205.0	6.8	3.1	4.8	6.0	4.7	13.8	5.2	6.6
210.0	6.3	3.0	4.9	5.8	4.3	13.4	5.0	6.6
215.0	5.7	3.2	4.9	6.2	4.4	13.7	4.6	5.9
220.0	6.4	3.0	4.8	6.2	5.1	13.8	5.1	6.5
225.0	5.7	2.9	4.7	6.4	4.7	13.8	5.2	5.8
230.0	6.1	2.9	4.5	6.0	4.7	13.6	4.7	7.3
235.0	6.2	3.1	4.3	5.8	5.0	13.7	5.0	6.1
240.0	6.9	3.1	4.8	6.4	5.1	13.4	5.1	6.2
245.0	6.4	2.8	4.7	5.7	4.9	13.7	4.7	6.4
250.0	6.4	3.1	4.7	5.8	5.0	13.7	4.7	6.2
255.0	6.3	2.4	4.4	6.0	4.7	13.3	4.8	5.6
260.0	5.7	3.2	4.4	5.9	4.2	13.2	5.0	5.8
265.0	6.1	2.6	4.0	5.4	4.2	13.1	5.0	6.1
270.0	4.9	2.1	4.2	5.7	3.7	13.1	9999.9	5.7
275.0	5.0	2.3	4.3	5.4	3.7	12.7	4.8	6.6
280.0	5.2	2.4	4.3	6.1	3.4	12.2	4.8	5.8
285.0	5.0	2.6	3.8	5.5	3.4	12.4	4.7	5.8
290.0	4.8	2.3	4.2	5.9	3.2	12.6	9999.9	5.7

AFSS RUN #7 DAY 2139

Test Time (min)	Temperature at SOFI Depth: 16.7mm (.66in)	14.0mm (.55in)	32.5mm (1.28in)
0.0	18.6 C	18.6 C	18.6 C
5.0	16.6	16.4	18.4
10.0	9.9	10.5	17.2
15.0	1.7	-0.8	15.3
20.0	1.8	-3.9	12.6
25.0	-0.4	-3.6	10.1
30.0	-0.8	-3.7	9.7
35.0	-1.5	-3.4	9.1
40.0	-0.8	-3.6	9.5
45.0	-0.8	-4.3	9.5
50.0	-0.8	-4.1	9.3
55.0	-0.9	-4.6	8.9
60.0	-1.4	-4.1	8.9
65.0	-0.1	-4.9	9.4
70.0	-0.6	-2.9	9.2
75.0	-0.2	-3.7	8.7
80.0	-0.6	-4.1	8.9
85.0	0.4	-1.1	8.9
90.0	-0.7	-0.4	8.6
95.0	-0.1	-2.4	9.7
100.0	-1.1	-0.8	8.7
105.0	-1.1	-2.5	8.9
110.0	-1.3	-0.7	8.2
115.0	-0.2	-1.7	8.8
120.0	-0.7	-1.6	8.7
125.0	-0.8	-0.5	8.7
130.0	-0.9	-0.8	8.4
135.0	-0.8	-2.9	8.6
140.0	-0.3	-2.4	8.4
145.0	-1.2	-0.6	8.1
150.0	-0.3	-2.0	8.2
155.0	-0.8	-1.7	8.3
160.0	-0.4	-0.8	9.6
165.0	-0.9	-2.7	8.0
170.0	-1.2	-3.2	7.8
175.0	-0.3	-1.3	8.5
180.0	-1.3	-2.9	7.9
185.0	-1.2	-2.2	8.2
190.0	-1.3	-1.1	8.1
195.0	-1.8	-2.7	7.7
200.0	-1.4	-2.2	8.3
205.0	-1.3	-0.8	8.0
210.0	-0.5	-0.8	7.9
215.0	-1.4	-2.3	8.0
220.0	-1.3	-1.8	8.3
225.0	-1.4	-1.2	8.2
230.0	-1.2	-2.3	7.6
235.0	-1.5	-2.1	7.7
240.0	-0.8	-1.2	8.1
245.0	-1.6	-1.7	7.6
250.0	-1.1	-2.3	7.6
255.0	-1.1	-1.9	7.1
260.0	-1.3	-2.5	8.0
265.0	-0.9	-1.9	7.7
270.0	-1.4	-3.1	7.6
275.0	-0.6	-2.7	9.3
280.0	-1.4	-2.4	7.6
285.0	-1.7	-3.3	7.6
290.0	-1.4	-2.4	7.8

!FSS RUN # 7 DAY 2139

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	19.7	19.2	20.0	19.4
	19.6	19.5	19.2	19.6
	19.4	19.4	19.4	18.8
	19.2	18.8	18.6	18.6
	19.1	18.5	18.8	18.6
	19.0	18.6	18.6	18.8
	18.9	18.8	18.6	18.6
	18.8	18.3	18.5	18.3
	18.7	18.3	18.3	18.3
	18.6	18.3	17.6	17.7

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	19.1	18.7	17.2	17.3
	19.0	18.7	16.6	17.2
	18.8	18.7	16.6	17.2
	18.7	18.6	16.1	16.3
	18.6	18.3	15.5	16.1
	18.5	18.1	15.1	15.5
	18.4	18.3	13.8	13.8
	18.3	17.7	11.3	11.8
	18.2	17.6	8.3	9.2
	18.1	17.7	6.8	9.2

AFSS RUN # 7 DAY 2139

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	18.4	17.7	-5.0	-5.2
	18.4	17.7	-0.5	1.6
	18.3	17.7	-0.7	1.2
	18.2	18.1	-0.3	1.3
	18.1	17.7	-0.5	-0.5
	18.0	17.7	0.5	0.0
	17.9	17.6	1.1	1.6
	17.8	17.7	1.0	1.6
	17.7	17.2	1.1	1.3
	17.6	17.7	2.2	3.1

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	18.0	17.7	6.3	7.2
	18.0	17.5	5.5	6.2
	17.8	17.8	6.1	7.0
	17.8	17.2	7.0	7.1
	17.7	17.2	7.2	6.6
	17.6	16.8	7.3	7.1
	17.5	16.7	7.0	6.6
	17.4	17.0	5.5	6.4
	17.3	16.8	6.7	6.7
	17.2	16.8	6.7	7.2

AFSS RUN # 7 DAY 2139

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 17.8	17.7	-3.0	-4.4
17.7	17.2	1.1	1.6
17.6	17.7	1.3	1.6
17.5	16.8	1.6	1.6
17.4	16.6	1.5	0.8
17.4	16.7	1.2	1.1
17.3	16.8	2.2	2.2
17.2	17.0	2.7	2.7
17.1	16.6	2.7	3.5
16.9	16.3	4.1	3.8

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 17.5	17.2	8.3	7.2
17.5	17.2	6.6	5.5
17.4	17.2	5.6	6.1
17.3	17.2	6.5	8.0
17.3	17.2	6.6	6.8
17.2	17.0	6.6	7.2
17.1	16.7	7.2	7.7
17.1	17.0	7.7	7.7
16.9	16.7	6.7	6.6
16.8	16.6	5.7	6.9

AFSS RUN # 7 DAY 2139

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 17.3	17.7	-6.1	-4.0
17.2	16.7	1.2	1.6
17.2	17.1	-0.5	1.1
17.1	16.6	1.1	1.6
17.1	16.6	1.5	1.2
17.0	16.8	0.6	0.5
16.9	16.8	2.2	2.7
16.8	16.6	2.2	1.6
16.7	16.6	2.2	3.2
16.6	16.6	3.3	2.2

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 17.2	17.7	7.5	7.7
17.1	17.2	6.3	7.5
17.0	17.2	7.2	7.7
16.9	16.8	7.8	7.7
16.9	17.2	7.7	8.3
16.8	17.5	7.3	7.7
16.8	16.8	8.3	8.3
16.7	16.5	7.6	8.3
16.6	16.6	8.0	8.3
16.5	16.6	8.3	9.8

AFSS RUN # 7 DAY 2139

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	17.1	17.6	-4.4	-3.8
	17.0	17.2	0.0	2.3
	16.9	17.3	2.2	2.7
	16.8	16.6	2.7	3.4
	16.8	16.6	2.2	1.6
	16.8	16.6	1.7	1.6
	16.7	16.6	3.3	2.8
	16.6	16.6	1.6	2.0
	16.6	16.6	3.3	2.7
	16.4	16.6	3.5	3.8

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	16.9	16.6	7.7	8.3
	16.9	17.0	7.7	8.3
	16.8	16.6	9.1	8.6
	16.7	16.8	8.3	8.9
	16.7	16.6	8.8	10.0
	16.7	16.6	8.8	10.0
	16.6	16.6	10.0	10.5
	16.5	16.6	10.0	10.0
	16.4	16.6	10.0	10.0
	16.3	16.5	9.4	10.5

AFSS RUN # 7 DAY 2139

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 16.8	16.8	-6.3	-5.5
16.8	16.5	0.3	2.2
16.7	16.6	1.1	2.3
16.6	16.3	1.6	2.7
16.6	16.5	2.2	2.7
16.6	16.5	2.2	1.6
16.5	16.4	3.7	3.0
16.4	16.1	2.2	2.6
16.3	16.1	3.3	3.1
16.2	16.1	4.8	4.4

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 16.6	16.1	9.0	10.0
16.6	16.1	8.3	8.7
16.6	16.2	8.3	8.8
16.5	16.1	8.3	8.8
16.5	16.2	8.3	8.3
16.4	16.1	7.2	7.6
16.4	16.1	7.7	8.8
16.4	16.1	8.1	8.3
16.3	16.3	8.2	9.0
16.2	16.1	8.0	8.8

AFSS RUN # 7 DAY 2139

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 16.6	16.7	-8.8	-8.2
16.5	16.6	-2.5	0.0
16.4	16.6	-1.1	0.0
16.4	16.6	0.8	1.1
16.4	16.6	1.6	1.6
16.3	16.6	1.2	1.6
16.3	16.6	1.6	1.6
16.3	16.6	1.5	1.6
16.3	16.6	1.1	2.2
16.2	16.5	2.7	1.7

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 16.6	16.6	7.2	7.2
16.5	16.6	5.5	7.2
16.4	16.3	6.1	6.6
16.4	16.5	7.2	7.8
16.4	16.1	8.0	8.0
16.3	16.6	8.3	7.7
16.3	16.2	8.3	9.2
16.3	16.1	7.6	8.6
16.2	16.1	7.7	8.7
16.1	16.1	7.3	8.3

AFSS RUN # 7 DAY 2139

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	16.4	16.6	-4.1	-3.3
	16.4	16.1	0.0	1.1
	16.3	16.6	-0.1	0.5
	16.3	16.1	0.0	0.5
	16.3	16.5	-0.8	-0.8
	16.2	16.1	2.2	1.6
	16.2	16.1	2.7	2.0
	16.1	16.2	2.7	2.2
	16.1	16.5	2.2	2.7
	15.9	16.1	2.7	2.5

TEST TIME 225.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	16.4	16.6	7.7	7.7
	16.3	16.6	5.2	6.1
	16.3	16.6	5.5	6.3
	16.2	16.1	6.1	7.0
	16.2	16.6	7.2	7.7
	16.2	16.1	7.7	7.2
	16.1	16.1	7.2	7.2
	16.1	16.1	7.7	8.6
	16.0	16.2	7.2	8.2
	15.9	16.1	7.7	8.8

AFSS RUN # 7 DAY 2139

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	16.3	16.6	-2.2	-2.2
	16.3	16.3	1.7	1.5
	16.2	16.5	1.6	1.6
	16.2	16.7	2.6	1.6
	16.1	16.2	4.0	2.7
	16.1	16.1	2.7	2.8
	16.0	16.1	3.8	3.4
	16.0	16.1	3.3	3.8
	15.9	16.1	2.7	3.3
	15.8	16.1	4.4	4.2

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	16.2	15.8	9.8	9.4
	16.2	15.5	8.3	8.3
	16.1	16.1	8.2	8.5
	16.1	16.1	8.3	9.4
	16.0	16.1	8.3	9.4
	15.9	16.1	6.8	8.5
	15.9	15.5	8.3	9.4
	15.8	16.1	8.4	8.3
	15.8	16.1	7.2	8.3
	15.7	16.1	8.3	8.3

AFSS RUN # 7 DAY 2139

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 16.0	16.1	-5.1	-6.1
16.0	15.8	0.8	1.7
15.9	16.0	1.6	1.6
15.9	16.1	1.6	1.2
15.9	15.5	1.6	1.0
15.8	16.1	-0.6	0.0
15.8	15.5	1.6	1.1
15.7	15.8	0.5	0.0
15.7	15.1	1.1	1.6
15.6	15.5	2.2	2.0

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 15.8	15.5	7.8	8.3
15.8	16.1	7.7	7.8
15.8	15.5	8.3	8.3
15.7	15.5	7.5	8.3
15.7	15.4	7.8	8.3
15.7	15.5	8.0	8.3
15.6	16.0	9.2	8.8
15.6	15.5	8.8	9.2
15.6	15.2	8.3	9.0
15.4	15.6	9.2	9.4

AFSS RUN #8 [illegible] 2144

Test Time (min)	4 Meter Dewcell Dew point	4 Meter Dewcell Temp	1 Meter Dewcell Dew point	1 Meter Dewcell Temp	Fan [illegible] West	Fan [illegible] East
0.0	7.5 C	9.9 C	6.9 C	9.9 C	[illegible]	[illegible]
5.0	7.5	10.0	7.0	9.8	[illegible]	[illegible]
10.0	7.5	10.0	7.1	9.9	[illegible]	[illegible]
15.0	7.6	10.1	7.1	9.8	[illegible]	[illegible]
20.0	7.5	9.9	7.1	9.8	[illegible]	3.449
25.0	7.5	9.9	7.0	9.9	[illegible]	[illegible]
30.0	7.5	9.8	7.0	9.8	5.057	[illegible]
35.0	7.5	9.8	7.0	9.7	5.057	7.126
40.0	7.5	9.8	7.0	9.8	5.057	6.897
45.0	7.5	9.9	7.0	9.9	5.057	6.437
50.0	7.6	10.1	7.0	10.0	5.057	5.377
55.0	7.5	10.1	7.0	10.0	5.057	5.057
60.0	7.7	10.2	7.0	10.0	5.057	5.287
65.0	7.6	10.3	7.0	10.1	5.057	5.517
70.0	7.6	10.5	7.0	10.2	4.828	5.287
75.0	7.5	10.5	7.0	10.2	4.828	5.517
80.0	7.5	10.7	6.9	10.4	4.828	5.747
85.0	7.6	10.9	6.9	10.4	4.828	5.747
90.0	7.6	11.0	7.1	10.4	4.828	5.747
95.0	7.5	10.8	7.1	10.4	4.828	5.057
100.0	7.5	10.9	7.1	10.5	4.828	5.057
105.0	7.6	11.1	7.0	10.5	4.828	5.057
110.0	7.6	11.2	7.0	10.6	4.828	5.287
115.0	7.7	11.4	7.0	10.8	4.828	5.517
120.0	7.6	11.3	7.2	10.8	4.828	5.287
125.0	7.7	11.4	7.2	10.8	4.828	5.057
130.0	7.7	11.4	7.3	10.8	4.828	5.287
135.0	7.7	11.5	7.3	10.8	4.828	5.287
140.0	7.8	11.5	7.3	10.8	4.828	5.517
145.0	7.8	11.6	7.3	10.9	4.828	5.517
150.0	7.9	11.8	7.4	10.8	4.828	5.517
155.0	7.9	11.8	7.4	10.8	4.828	5.517
160.0	7.8	11.7	7.5	10.8	4.828	5.517
165.0	7.9	11.8	7.4	10.9	4.828	5.287
170.0	8.0	11.8	7.5	10.9	4.828	5.287
175.0	7.9	11.7	7.5	10.9	4.828	5.287
180.0	7.9	11.7	7.4	10.8	4.828	5.057
185.0	8.0	11.7	7.6	10.9	4.828	5.287
190.0	7.9	11.7	7.6	10.9	4.828	5.287
195.0	8.0	11.7	7.7	10.9	4.828	5.287
200.0	8.1	11.9	7.5	11.0	4.828	5.287
205.0	8.1	12.0	7.5	11.1	5.057	5.057
210.0	8.1	12.0	7.6	11.1	4.828	5.057
215.0	8.0	12.1	7.4	11.2	5.057	4.828
220.0	8.1	12.3	7.4	11.2	5.057	5.057
225.0	8.1	12.4	7.4	11.4	5.057	5.057
230.0	8.1	12.3	7.8	11.4	5.057	5.057
235.0	8.2	12.4	8.0	11.5	5.057	5.287
240.0	8.3	12.5	7.9	11.6	5.057	5.287
245.0	8.4	12.3	8.2	11.5	5.057	5.287
250.0	8.5	12.5	8.1	11.7	5.057	5.287
255.0	8.5	12.7	7.9	11.6	5.057	5.287
260.0	8.4	12.6	7.8	11.6	5.057	5.517
265.0	8.4	12.6	7.9	11.7	5.057	5.517
270.0	8.4	12.5	7.9	11.5	5.057	5.287
275.0	8.4	12.5	7.8	11.5	5.057	5.287
280.0	8.4	12.5	7.9	11.6	5.057	5.287
285.0	8.4	12.4	7.8	11.6	5.057	5.517
290.0	8.4	12.4	7.7	11.5	5.057	5.517

AFSS RUN #8 DAY 2144

Test Time (min)	Ceiling		Floor		Plastic Walls			
	East	West	East	West	N	S	E	W
0.0	12.60	11.80	11.20	11.30	10.30	10.20	10.60	10.30
5.0	12.9	11.7	11.2	11.4	10.2	10.2	10.7	10.4
10.0	11.7	11.6	11.2	11.4	10.1	10.2	10.6	10.3
15.0	10.4	11.1	11.2	11.3	10.0	10.1	10.5	10.3
20.0	11.2	10.9	11.2	11.3	9.9	10.1	10.4	10.3
25.0	11.2	10.9	11.2	11.3	9.9	10.1	10.4	10.2
30.0	11.0	10.9	11.1	11.3	9.8	10.0	10.3	10.1
35.0	12.0	11.2	11.1	11.2	9.8	10.0	10.4	10.2
40.0	12.5	11.9	11.1	11.2	9.9	10.2	10.4	10.3
45.0	13.2	12.2	11.1	11.3	9.9	10.3	10.6	10.4
50.0	13.4	12.4	11.1	11.3	10.0	10.3	10.6	10.6
55.0	13.0	12.6	11.1	11.3	10.1	10.4	10.7	10.6
60.0	12.7	12.9	11.1	11.3	10.2	10.4	10.8	10.7
65.0	12.7	13.2	11.0	11.3	10.2	10.6	10.9	10.7
70.0	13.4	13.4	11.0	11.3	10.3	10.6	10.9	10.8
75.0	14.1	14.0	11.1	11.4	10.4	10.7	11.1	10.9
80.0	15.2	14.7	11.1	11.4	10.6	10.9	11.2	11.1
85.0	15.2	14.8	11.1	11.5	10.6	10.9	11.3	11.2
90.0	14.6	14.6	11.1	11.4	10.7	10.9	11.3	11.1
95.0	14.7	14.2	11.0	11.4	10.6	10.9	11.4	11.1
100.0	14.9	14.3	11.1	11.3	10.7	10.9	11.3	11.2
105.0	15.2	14.2	11.1	11.4	10.7	11.0	11.3	11.3
110.0	15.1	14.3	11.1	11.4	10.8	11.1	11.4	11.4
115.0	14.5	14.2	11.1	11.6	10.9	11.2	11.6	11.3
120.0	13.8	13.8	11.1	11.5	10.9	11.2	11.7	11.3
125.0	14.1	13.7	11.1	11.6	10.9	11.1	11.6	11.3
130.0	13.9	13.7	11.1	11.4	10.9	11.2	11.5	11.4
135.0	14.4	13.8	11.1	11.4	10.9	11.2	11.5	11.5
140.0	14.9	14.1	11.1	11.6	11.0	11.2	11.5	11.5
145.0	14.9	14.3	11.1	11.6	11.1	11.3	11.6	11.5
150.0	14.8	14.3	11.2	11.6	11.1	11.3	11.7	11.6
155.0	15.0	14.3	11.2	11.6	11.1	11.3	11.8	11.5
160.0	15.2	14.6	11.2	11.6	11.1	11.4	11.7	11.6
165.0	15.4	14.7	11.2	11.5	11.1	11.4	11.7	11.7
170.0	15.3	14.8	11.2	11.6	11.2	11.4	11.8	11.7
175.0	14.9	14.6	11.2	11.6	11.1	11.4	11.8	11.6
180.0	14.6	14.5	11.2	11.6	11.1	11.4	11.7	11.6
185.0	14.8	14.4	11.2	11.6	11.2	11.4	11.9	11.6
190.0	15.2	14.5	11.2	11.7	11.2	11.4	11.8	11.6
195.0	15.0	14.7	11.2	11.6	11.2	11.5	11.7	11.7
200.0	15.2	14.8	11.2	11.6	11.3	11.6	11.8	11.8
205.0	15.1	14.9	11.3	11.7	11.3	11.6	11.8	11.9
210.0	15.1	14.8	11.3	11.7	11.4	11.7	11.9	11.8
215.0	16.7	15.3	11.3	11.7	11.4	11.7	11.9	11.9
220.0	17.3	16.2	11.3	11.7	11.5	11.8	12.1	12.1
225.0	16.8	16.4	11.3	11.8	11.6	11.9	12.1	12.2
230.0	16.0	16.2	11.3	11.8	11.7	12.1	12.1	12.3
235.0	16.2	16.1	11.4	11.8	11.8	12.1	12.2	12.3
240.0	16.2	16.0	11.4	11.8	11.9	12.2	12.3	12.4
245.0	15.4	15.8	11.4	11.8	11.9	12.2	12.2	12.4
250.0	14.8	15.4	11.4	11.9	11.9	12.2	12.2	12.3
255.0	14.8	15.1	11.4	11.9	11.9	12.2	12.2	12.4
260.0	15.2	15.1	11.4	11.8	11.9	12.1	12.3	12.3
265.0	14.6	14.8	11.4	11.9	11.9	12.2	12.3	12.3
270.0	14.8	14.7	11.4	11.9	11.8	12.0	12.2	12.2
275.0	14.4	14.6	11.4	11.8	11.8	12.1	12.3	12.2
280.0	14.4	14.4	11.5	11.8	11.8	12.0	12.2	12.2
285.0	14.7	14.5	11.5	11.8	11.8	12.0	12.1	12.2
290.0	14.1	14.4	11.5	11.8	11.8	12.0	12.1	12.2

AFSS RUN #8 DAY 2144

Test Time (min)	Thermocouple Readout by Position SIDE A 1	2	3	4	5	6	7	8
0.0	10.6	10.6	10.8	12.4	10.7	10.6	10.7	10.9
5.0	10.7	10.6	10.5	10.8	10.7	10.6	10.7	10.4
10.0	9.9	9.3	7.3	5.9	10.1	9.4	9.1	5.2
15.0	8.1	6.7	2.1	-5.3	8.6	6.9	5.0	-2.9
20.0	5.7	3.1	-6.2	-0.6	6.4	3.1	-1.1	-3.8
25.0	2.2	-3.0	-7.8	-6.2	3.4	-3.2	-2.8	-3.9
30.0	-4.6	-8.6	-7.4	-6.4	-1.0	-5.7	-3.1	-3.7
35.0	-8.1	-2.9	-5.7	-5.7	-3.8	-5.6	-2.1	-3.7
40.0	-7.4	-7.3	-3.6	-2.6	-4.2	-4.9	-1.8	-2.9
45.0	-8.1	-8.1	-3.4	-1.7	-3.7	-5.0	-0.4	-2.8
50.0	-7.8	-7.2	-3.1	-2.2	-3.5	-5.4	0.0	-0.6
55.0	-6.0	-0.5	-0.5	-2.0	-2.8	-0.2	0.1	0.0
60.0	-7.1	-0.4	-4.4	-1.9	-3.2	-0.2	0.2	-0.4
65.0	-7.0	-1.7	-5.9	-3.4	-3.8	-3.3	0.1	-0.7
70.0	-6.8	-4.0	-6.0	-3.7	-3.1	-4.2	0.1	-1.8
75.0	-7.3	-5.5	-4.7	-2.3	-3.7	-4.3	-0.2	-2.4
80.0	-7.1	-0.4	-4.7	-2.4	-3.3	-4.8	-0.5	-2.4
85.0	-7.3	-0.7	-4.3	-2.7	-3.0	-4.7	-0.8	-2.4
90.0	-6.4	-0.6	-0.2	-1.3	-3.2	-4.5	-0.6	-2.2
95.0	-4.8	-2.7	-0.2	-1.2	-3.2	-4.9	-1.8	-2.4
100.0	-6.6	-0.8	-0.6	-0.9	-3.2	-4.7	-2.3	-3.1
105.0	-6.6	-0.6	-0.9	-0.8	-3.2	-5.1	-2.2	-3.1
110.0	-6.2	-0.6	-0.4	-0.9	-3.3	-4.9	-2.4	-3.3
115.0	-1.6	-1.3	-0.7	-0.8	-2.8	-4.9	-2.2	-2.5
120.0	-3.3	-4.4	-0.3	-1.1	-2.7	-5.1	-2.1	-2.8
125.0	-4.8	-4.8	-0.7	-1.8	-3.0	-4.9	-2.1	-3.0
130.0	-5.3	-3.0	-1.2	-2.6	-2.6	-4.8	-2.2	-3.4
135.0	-5.7	-4.1	-2.8	-0.4	-3.0	-4.9	-0.6	-3.2
140.0	-4.8	-0.8	-3.6	-0.6	-2.8	-4.8	-1.4	-2.9
145.0	-5.4	-0.9	-4.3	-2.2	-2.8	-4.6	-1.9	-3.2
150.0	-5.6	-1.4	-0.3	-0.6	-2.4	-4.7	-2.2	-3.3
155.0	-5.8	-0.8	-0.6	-0.7	-2.5	-4.7	-1.9	-3.2
160.0	-6.0	-0.9	-1.2	-0.6	-2.3	-4.9	0.2	-3.4
165.0	-5.6	-1.0	-1.8	-0.6	-2.8	-4.9	0.2	-3.1
170.0	-6.0	-1.1	-0.5	-0.8	-2.6	-4.8	-0.2	-2.8
175.0	-6.2	-2.9	-0.4	-1.8	-2.9	-5.2	-1.2	-2.6
180.0	-5.8	-0.9	-1.2	-2.7	-3.1	-5.1	-2.2	-2.4
185.0	-6.4	-0.9	-1.3	-2.4	-2.8	-5.0	-2.2	-2.1
190.0	-6.4	-0.9	-1.0	-2.8	-2.9	-5.0	-2.2	-0.9
195.0	-1.2	-1.1	-0.5	-1.4	-2.8	-5.0	-2.0	-2.5
200.0	-5.6	-1.7	-0.5	-2.1	-2.8	-4.9	-2.0	-3.2
205.0	-5.4	-2.9	-0.5	-0.6	-2.7	-4.7	-1.9	-3.2
210.0	-4.1	-2.1	-0.9	-0.6	-2.4	-5.0	-2.1	-3.1
215.0	-5.6	-1.1	-0.8	-0.6	-2.6	-4.7	-2.1	-3.2
220.0	-5.8	-3.0	-0.6	-0.6	-2.6	-4.7	-1.9	-3.2
225.0	-5.4	-3.5	-0.6	-1.1	-2.6	-4.6	-1.7	-3.2
230.0	-5.6	-3.8	-0.8	-1.6	-2.2	-4.7	-1.3	-2.8
235.0	-5.2	-4.5	-1.6	-0.8	-2.0	-4.9	-1.7	-2.7
240.0	-5.4	-5.4	-1.4	-1.2	-2.3	-4.7	-1.1	-2.5
245.0	-5.6	-6.0	-3.2	-1.4	-1.9	-4.7	-1.1	-2.7
250.0	-4.9	-2.8	-3.7	-1.8	-2.3	-5.1	-1.6	-3.0
255.0	-4.6	-3.9	-0.7	-0.7	-2.3	-4.4	-1.5	-2.8
260.0	-4.9	-5.4	-0.7	-0.7	2.0	-4.8	-1.6	-2.9
265.0	-5.0	-5.1	-1.1	-0.9	-1.3	-4.4	-1.5	-2.8
270.0	-5.6	-4.8	-1.0	-1.2	-1.1	-4.5	-1.8	-3.1
275.0	-4.2	-5.8	-1.4	-1.6	-1.0	-4.8	-1.8	-3.1
280.0	-4.6	-6.1	-1.0	-1.9	-1.7	-5.1	-1.8	-3.2
285.0	-5.3	-6.1	-1.9	-1.6	-1.8	-5.3	-1.8	-3.2
290.0	-5.0	-6.2	-1.7	-1.8	-1.7	-5.2	-1.8	-3.1

AFSS RUN #8 DAY 2144

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	10.5	10.3	10.3	10.1	10.5	10.2	10.3	10.2
5.0	10.6	10.3	10.2	10.0	10.6	10.2	10.3	10.1
10.0	10.1	9.5	8.6	7.0	10.1	9.6	8.7	7.7
15.0	8.9	7.3	5.0	-0.2	9.0	9.3	5.6	1.6
20.0	7.6	4.3	-0.7	-1.9	7.8	8.3	0.7	-1.4
25.0	5.6	-0.8	-3.1	-2.1	5.9	7.6	-2.5	-1.8
30.0	2.0	-4.4	-3.2	-1.8	2.7	7.7	-3.5	-2.1
35.0	0.6	-4.0	-2.7	-1.6	-1.3	6.9	-3.3	-1.9
40.0	-1.1	-3.8	-2.4	-1.6	-2.6	7.0	-2.6	-0.3
45.0	0.0	-3.2	-1.7	-1.2	-1.4	7.3	-1.9	0.0
50.0	0.2	-3.3	-2.2	-1.2	-1.4	7.2	-2.3	-0.2
55.0	0.4	-3.3	-1.9	-0.7	-1.4	7.7	-2.1	-0.1
60.0	0.6	-3.3	-0.7	-0.4	-1.3	7.6	-2.2	-0.1
65.0	0.1	-3.3	-1.0	-0.3	-1.4	7.6	-1.7	-0.1
70.0	0.6	-1.0	-0.3	0.4	-1.2	7.5	-1.1	0.2
75.0	0.8	-1.2	-1.0	0.4	-1.4	7.9	-1.2	0.1
80.0	0.6	-1.3	-1.2	0.4	-1.7	8.2	-1.4	0.1
85.0	1.2	-1.3	-1.3	0.7	-1.4	7.9	-1.4	0.1
90.0	0.9	-1.3	-1.1	0.3	-1.4	8.0	-1.4	0.1
95.0	0.3	-0.8	-1.0	0.3	-1.4	8.0	-1.7	0.0
100.0	0.1	-1.2	-1.3	0.0	-1.3	8.0	-1.4	0.1
105.0	0.0	-1.0	-0.1	-0.1	-1.3	8.3	-1.4	0.1
110.0	-0.1	-1.2	-0.1	0.3	-1.3	8.5	-1.2	0.1
115.0	0.1	-1.4	-0.4	0.2	-1.1	8.3	-0.9	0.0
120.0	0.3	-0.7	-0.4	0.2	-1.2	8.2	-0.9	0.0
125.0	0.5	-0.4	-0.3	0.2	-0.4	8.3	-0.9	0.0
130.0	0.3	-0.6	-1.3	-0.1	-0.8	8.3	-0.8	0.0
135.0	0.4	-1.6	-1.1	0.1	-0.7	8.5	-1.1	0.0
140.0	0.6	-1.4	-1.3	0.3	-1.2	8.7	-1.2	-0.2
145.0	0.7	-1.1	-1.5	0.3	-0.6	8.8	-0.6	-0.3
150.0	0.7	-0.9	-1.3	-0.6	-1.0	8.6	-0.1	-0.3
155.0	1.1	-2.3	-0.6	-0.4	-0.5	8.4	-0.2	-0.3
160.0	0.8	-2.5	-1.3	-0.4	-0.6	8.8	-0.9	-0.2
165.0	0.9	-0.9	-1.1	-0.1	-0.9	8.8	-1.2	-0.1
170.0	1.2	-0.8	-1.2	-0.9	-0.7	8.5	-1.1	-0.2
175.0	1.1	-0.4	-1.6	-1.1	-1.1	8.6	-0.2	-0.2
180.0	0.6	-0.5	-1.5	-1.1	-1.3	8.4	-0.1	-0.1
185.0	0.7	-0.6	-1.6	0.3	-1.4	8.6	-0.6	-0.1
190.0	0.7	-0.7	-0.8	0.7	-1.4	8.6	-0.4	0.1
195.0	0.8	-1.1	-1.1	0.3	-1.4	8.9	-0.9	-0.1
200.0	0.9	-1.2	-1.3	0.2	-1.6	8.9	-0.6	-0.1
205.0	0.7	-1.7	-1.6	0.3	-1.6	9.1	-0.3	-0.1
210.0	0.8	-1.4	-1.7	0.3	-1.2	8.7	-0.6	-0.1
215.0	0.6	-1.3	-1.4	-0.1	-1.4	8.9	-0.4	-0.3
220.0	0.9	-1.1	-1.2	-0.6	-1.3	9.1	-0.1	-0.2
225.0	1.1	-1.0	-0.5	0.1	-1.2	9.1	-0.3	-0.2
230.0	1.0	-0.6	-0.1	0.1	-1.3	9.3	-0.6	0.0
235.0	1.2	-0.4	-0.1	-0.1	-1.3	9.6	-0.7	-0.1
240.0	1.2	-0.5	-0.2	0.2	-1.2	9.6	-0.8	-0.1
245.0	1.1	-0.7	-0.8	0.3	-0.4	9.5	-0.8	-0.1
250.0	1.1	-0.6	-1.3	0.1	-0.4	9.6	-0.4	-0.1
255.0	0.3	-0.6	-1.2	0.2	-0.7	9.7	-0.2	-0.1
260.0	0.6	-0.7	-1.4	0.1	-0.9	9.8	-0.5	-0.2
265.0	0.9	-0.9	-1.4	0.3	-0.9	9.8	-0.3	0.1
270.0	1.1	-1.0	-0.2	0.2	-1.1	9.8	-0.4	-0.1
275.0	1.1	-0.6	-1.4	0.1	-1.1	9.6	-0.6	-0.2
280.0	1.1	-0.6	-1.1	0.6	-1.1	9.3	-0.4	-0.1
285.0	1.0	-0.7	-0.9	0.2	-1.2	9.3	-0.2	-0.2
290.0	1.2	-0.9	-0.8	0.3	-1.2	9.2	-0.2	-0.2

AFSS RUN #8 DAY 2144

Test Time (min)	Temperature at SOFI Depth: 16.7mm (.66in)	14.0mm (.55in)	32.5mm (1.28in)
0.0	10.7 C	10.9 C	10.6 C
5.0	8.6	8.3	10.6
10.0	0.0	0.2	9.4
15.0	-9.0	-12.7	7.0
20.0	-8.3	-13.1	2.7
25.0	-10.1	-14.3	0.5
30.0	-9.7	-14.7	0.2
35.0	-9.9	-13.8	0.2
40.0	-9.4	-11.8	0.4
45.0	-7.9	-12.9	2.4
50.0	-6.9	-10.1	0.3
55.0	-9.2	-2.1	0.2
60.0	-1.4	-12.0	0.8
65.0	-4.3	-10.6	0.8
70.0	-6.2	-10.4	1.8
75.0	-5.7	-0.8	1.1
80.0	-7.1	-0.8	1.2
85.0	-6.0	-2.6	1.2
90.0	-5.2	-8.2	1.2
95.0	-5.5	-8.2	0.9
100.0	-0.7	-2.6	1.2
105.0	-4.1	-8.2	0.4
110.0	-2.1	-9.3	0.8
115.0	-3.2	-6.8	0.7
120.0	-4.9	-5.9	0.6
125.0	-0.5	-0.7	1.0
130.0	-5.3	-5.9	1.4
135.0	-6.2	-7.8	1.2
140.0	-5.3	-0.8	1.7
145.0	-6.2	-1.7	1.3
150.0	-6.5	-0.7	1.5
155.0	-1.9	-1.0	1.4
160.0	-6.1	-2.0	1.3
165.0	-5.8	-1.5	1.3
170.0	-5.2	-0.8	1.3
175.0	-2.2	-1.3	1.3
180.0	-0.6	-0.9	1.4
185.0	-2.7	-1.3	1.3
190.0	-4.6	-1.2	1.8
195.0	-5.2	-3.1	1.4
200.0	-5.3	-1.8	1.6
205.0	-4.2	-2.2	1.6
210.0	-0.9	-2.2	1.6
215.0	-2.1	-2.4	1.6
220.0	-3.8	-5.7	1.6
225.0	-4.5	-6.7	1.6
230.0	-4.7	-6.6	1.8
235.0	-4.9	-4.9	1.7
240.0	-4.9	-4.3	1.8
245.0	-4.8	-2.5	1.6
250.0	-4.3	-2.1	1.8
255.0	-3.0	-2.5	1.7
260.0	-4.3	-1.3	1.8
265.0	-3.6	-1.8	1.9
270.0	-4.2	-1.7	1.8
275.0	-4.6	-1.3	1.7
280.0	-4.1	-2.0	2.4
285.0	-4.7	-3.5	1.7
290.0	-4.7	-4.7	1.7

AFSS RUN # 8 DAY 2144

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 10.3	11.6	11.6	11.6
	11.6	12.2	11.6
	11.6	12.7	12.7
	11.6	12.3	12.3
	11.6	12.7	12.5
	11.6	12.3	11.7
	11.6	12.7	11.6
	11.6	11.6	12.2
	11.6	11.6	11.6
	11.7	8.3	10.0

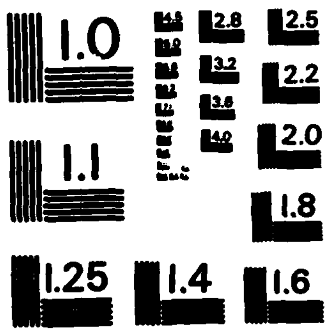
TEST TIME 15.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 10.2	12.2	9.4	10.0
	12.2	9.8	10.0
	11.6	10.2	10.0
	11.6	8.3	9.4
	11.9	8.3	8.8
	11.6	6.2	7.2
	11.9	4.7	5.0
	12.2	0.3	1.6
	11.7	-2.3	-1.6
	11.6	-3.2	-2.1

AD-A121 330 AN EXPERIMENTAL INVESTIGATION OF POTENTIAL ICING OF THE 3/4
SPACE SHUTTLE EXT..(U) COLD REGIONS RESEARCH AND
ENGINEERING LAB HANOVER NH M G FERRICK ET AL. SEP 82

UNCLASSIFIED CRREL-82-25 MIPR-FY7616-82-00394 F/G 22/2 NL



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AFSS RUN # 8 DAY 2144

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 10.0	11.1	-10.9	-14.4
	11.1	-10.4	-10.5
	11.1	-9.2	-9.7
	11.1	-6.2	-7.7
	11.2	-7.2	-8.3
	11.2	-5.5	-8.3
	11.2	-5.5	-8.3
	11.1	-5.5	-7.2
	11.1	-4.4	-6.1
	11.0	-2.5	-6.1

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 10.1	11.1	-0.5	0.5
	11.1	-1.0	-1.6
	11.1	-1.2	-1.5
	11.1	-1.7	-1.6
	11.6	-2.5	-3.5
	12.6	-3.3	-2.2
	10.6	-2.6	-2.1
	11.1	-3.6	-1.8
	11.1	-2.8	-1.2
	11.1	-2.2	-0.8

AFSS RUN # 8 DAY 2144

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 10.3	11.1	-7.3	-15.5
10.3	12.7	-4.4	-6.7
10.3	11.3	-2.7	-3.2
10.3	11.2	-2.7	-3.3
10.3	11.1	-2.7	-3.3
10.2	11.1	-2.7	-3.8
10.2	11.6	-2.3	-4.4
10.1	11.5	-2.3	-4.4
10.1	11.6	-3.7	-4.8
9.9	12.0	-3.3	-3.8

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 10.6	11.3	1.6	-1.0
10.6	11.5	-1.2	-0.5
10.6	12.0	-1.1	-1.6
10.6	11.6	-0.1	-0.1
10.5	12.1	-1.6	-2.2
10.4	12.1	-1.6	-1.6
10.4	11.1	-2.7	-1.6
10.3	12.1	-2.3	0.8
10.3	11.2	0.2	0.1
10.2	11.4	0.8	0.2

AFSS RUN # 8 DAY 2144

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.0	11.6	-9.2	-18.3
	10.9	11.1	-4.4	-7.7
	10.9	11.1	-4.4	-8.8
	10.9	11.6	-3.8	-8.1
	10.8	11.1	-4.8	-8.3
	10.8	11.1	-3.8	-6.1
	10.7	10.9	-4.4	-6.6
	10.6	11.1	-4.4	-8.0
	10.5	11.1	-5.6	-6.6
	10.4	10.0	-4.7	-7.3

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.2	11.6	-1.1	-1.3
	11.2	11.6	-2.2	-1.6
	11.1	11.1	-2.2	-2.0
	11.0	10.9	-1.3	-1.6
	11.0	11.1	-2.1	-1.6
	10.9	11.1	-2.2	-2.2
	10.8	11.1	-2.2	-2.2
	10.7	11.1	-2.7	-2.1
	10.6	10.6	-2.5	-2.5
	10.4	10.0	-1.6	-2.2

AFSS RUN # 8 DAY 2144

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 11.3	11.1	-6.5	-17.7
11.3	11.1	-4.4	-7.7
11.2	11.1	-4.0	-8.8
11.2	11.1	-5.0	-7.7
11.1	11.1	-3.8	-7.2
11.1	11.1	-2.8	-6.6
10.9	11.1	-3.8	-5.5
10.8	10.7	-3.8	-6.6
10.7	11.1	-3.8	-6.1
10.6	10.2	-3.1	-6.1

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 11.4	12.1	0.3	0.3
11.4	11.6	-1.7	-1.6
11.3	11.6	-2.2	-2.2
11.2	11.6	-1.6	-2.2
11.2	11.1	-2.2	-1.6
11.1	11.1	-1.8	-1.7
10.9	11.5	-2.2	-2.0
10.9	11.1	-1.8	-2.2
10.8	11.3	-1.9	-2.2
10.6	11.1	-2.2	-2.2

AFSS RUN # 8 DAY 2144

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TCP 11.6	11.6	-7.2	-17.3
11.6	11.7	-5.0	-7.7
11.4	12.1	-5.0	-6.5
11.3	11.6	-4.4	-7.2
11.3	11.6	-4.2	-6.6
11.2	11.5	-3.6	-6.8
11.1	11.1	-3.8	-6.4
10.9	11.1	-4.3	-7.7
10.9	11.1	-4.4	-7.2
10.7	11.1	-3.5	-6.0

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TCP 11.7	12.6	0.6	0.5
11.7	12.3	-1.6	-1.6
11.6	12.2	-1.6	-1.1
11.4	12.2	-1.1	-1.6
11.4	11.6	-2.2	-1.6
11.3	11.8	-1.6	-1.8
11.2	11.2	-1.6	-1.1
11.0	11.6	-1.6	-1.6
10.9	11.1	-1.6	-1.6
10.7	11.1	-1.6	-1.6

AFSS RUN # 8 DAY 2144

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 11.7	12.2	-6.6	-16.6
11.7	12.2	-2.7	-5.5
11.6	12.2	-3.3	-8.2
11.5	12.2	-3.4	-7.5
11.4	11.6	-2.3	-6.1
11.3	12.2	-2.7	-6.8
11.2	12.2	-2.6	-6.1
11.1	11.6	-3.3	-7.2
10.9	11.1	-3.4	-5.7
10.8	11.1	-4.0	-7.7

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 11.8	12.5	0.5	-0.5
11.8	12.6	-1.3	-1.1
11.7	12.5	-1.5	-1.6
11.6	12.1	-1.6	-1.6
11.4	12.2	-1.6	-1.6
11.4	11.7	-1.6	-1.6
11.2	12.2	-1.6	-1.6
11.2	11.1	-1.6	-1.4
11.0	11.1	-2.0	-2.2
10.8	11.1	-1.6	-1.6

AFSS RUN # 8 DAY 2144

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.9	12.7	-7.5	-16.6
	11.9	12.3	-3.3	-5.6
	11.8	12.7	-2.7	-7.7
	11.7	12.7	-2.7	-6.9
	11.6	12.2	-2.4	-7.6
	11.5	12.1	-3.2	-7.9
	11.3	12.2	-2.7	-6.1
	11.2	12.2	-3.8	-6.7
	11.1	12.2	-2.7	-6.1
	10.9	11.6	-2.7	-6.1

TEST TIME 225.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	12.2	13.0	1.6	0.0
	12.2	13.2	-0.5	-0.5
	12.1	12.8	-1.6	-0.5
	11.9	12.7	-1.1	-0.1
	11.8	12.7	-1.5	-0.6
	11.7	12.7	-1.1	-1.1
	11.5	12.5	-1.1	-0.5
	11.4	12.2	-1.6	-0.6
	11.2	12.2	-1.6	-1.6
	11.1	12.2	-1.6	-0.5

¬FSS RUN # 8 DAY 2144

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	12.4	13.7	-4.5	-11.6
	12.4	14.0	-2.7	-3.8
	12.2	13.3	-2.7	-6.2
	12.1	13.3	-3.7	-6.1
	11.9	13.1	-3.8	-5.7
	11.8	12.7	-3.8	-6.1
	11.7	12.6	-4.5	-3.6
	11.6	12.7	-5.0	-5.0
	11.4	12.7	-4.6	-3.8
	11.3	12.7	-3.3	-5.0

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	12.5	13.3	1.6	1.6
	12.4	13.3	0.0	-1.1
	12.3	13.3	9.7	9.5
	12.1	13.3	-0.5	-1.1
	12.0	12.7	-1.1	-0.7
	11.9	13.0	-2.1	-1.6
	11.8	13.0	-1.1	-1.1
	11.7	12.7	-1.1	-1.1
	11.5	12.7	-1.1	-1.1
	11.3	12.7	-1.1	-1.1

SS RUN # 8 DAY 2144

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 12.4	13.3	-5.0	-9.4
12.4	13.8	-4.4	-4.4
12.3	13.3	-3.4	-5.0
12.2	12.8	-3.8	-5.0
12.1	12.7	-3.8	-6.1
11.9	12.8	-4.1	-6.1
11.8	12.7	-4.4	-5.3
11.7	12.7	-4.4	-7.1
11.5	11.7	-4.1	-6.1
11.3	12.2	-3.3	-5.5

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 12.3	13.3	2.2	1.1
12.3	12.8	0.0	-1.2
12.2	12.7	-1.1	-1.0
12.1	12.7	-1.1	-0.8
12.0	12.7	-1.1	-1.0
11.9	12.7	-1.2	-1.1
11.8	12.7	-1.2	-1.1
11.7	12.7	-1.1	-1.1
11.6	12.5	-2.0	-1.0
11.3	11.6	-1.1	-1.1

AFSS RUN #9 DAY 2149

Test Time	4 Meter Dewcel		1 Meter Dewcel		Radiometers w/m2	
(min)	Dew point	Temp	Dew point	Temp	West	East
0.0	14.8 C	15.5 C	15.5 C	15.2 C	0.000	0.000
5.0	14.8	15.7	15.4	15.3	0.000	0.000
10.0	14.9	15.7	15.5	15.2	0.230	0.460
15.0	14.6	15.7	15.4	15.2	0.920	1.609
20.0	14.5	15.8	15.4	15.2	1.839	3.218
25.0	15.0	15.7	15.4	15.2	3.218	5.977
30.0	14.7	15.8	15.4	15.2	4.368	5.667
35.0	14.6	15.4	15.0	15.0	4.598	5.667
40.0	14.8	15.1	15.4	15.0	4.598	5.207
45.0	14.7	15.4	15.1	14.9	4.598	5.747
50.0	14.9	15.5	15.2	15.1	4.138	5.287
55.0	14.7	15.5	15.2	15.1	4.138	5.057
60.0	14.8	15.5	15.4	15.0	3.908	4.828
65.0	14.9	15.6	15.4	14.9	3.678	4.598
70.0	14.7	15.7	15.4	15.1	3.678	4.368
75.0	15.0	15.8	15.5	15.2	3.678	4.138
80.0	15.0	15.9	15.3	15.3	3.448	3.908
85.0	15.0	15.8	15.3	15.3	3.448	3.678
90.0	14.9	15.8	15.5	15.3	3.448	3.908
95.0	15.1	16.0	15.4	15.4	3.218	3.678
100.0	15.1	16.1	15.7	15.4	3.218	3.678
105.0	15.1	16.1	15.8	15.4	2.988	3.448
110.0	15.1	16.2	15.9	15.4	2.988	3.448
115.0	15.1	16.2	15.7	15.4	3.218	3.448
120.0	15.1	16.3	15.7	15.4	2.988	3.448
125.0	15.3	16.6	15.8	15.5	2.988	3.448
130.0	15.2	16.6	15.8	15.5	2.988	3.218
135.0	15.3	16.5	15.9	15.5	2.988	3.218
140.0	15.1	16.5	16.0	15.6	2.988	3.218
145.0	15.2	16.5	15.6	15.7	2.988	2.988
150.0	15.2	16.5	15.7	15.7	2.988	3.218
155.0	15.1	16.7	15.7	15.5	2.988	3.218
160.0	15.1	16.6	15.8	15.7	2.988	3.218
165.0	15.1	16.7	15.7	15.6	2.759	2.988
170.0	15.4	16.6	16.1	15.6	2.759	2.988
175.0	15.4	16.8	16.2	15.7	2.759	2.988
180.0	15.5	16.8	16.3	15.6	2.529	2.988
185.0	15.4	16.8	16.4	15.7	2.759	2.988
190.0	15.5	16.7	16.3	15.7	2.529	3.218
195.0	15.3	17.0	16.3	15.6	2.759	2.988
200.0	15.4	16.9	16.3	15.6	2.759	2.988
205.0	15.4	17.0	16.4	15.7	2.759	3.218
210.0	15.4	16.9	16.4	15.7	0.920	1.379
215.0	15.6	16.6	16.4	15.6	3.678	5.057
220.0	15.7	16.8	16.5	15.7	3.448	5.057
225.0	15.8	16.8	16.6	15.8	3.448	5.287
230.0	15.4	17.0	16.6	15.8	3.448	5.287
235.0	15.1	17.2	16.5	15.7	3.448	5.287
240.0	15.8	16.8	16.5	15.7	3.218	5.287
245.0	15.7	16.8	16.6	15.8	3.218	5.287
250.0	15.9	16.6	16.6	15.7	3.218	5.057
255.0	15.9	16.7	16.6	15.7	2.988	5.057
260.0	15.9	16.7	16.6	15.7	2.988	5.287
265.0	15.7	16.7	16.5	15.8	2.988	5.057
270.0	15.7	16.6	16.5	15.7	2.759	5.057
275.0	15.6	16.8	16.5	15.6	2.988	5.287
280.0	15.5	16.6	16.5	15.7	2.988	5.057
285.0	15.3	17.2	16.5	15.7	3.218	5.287
290.0	15.3	17.4	16.1	15.8	3.218	5.517

Test Time (min)	Ceiling East	Ceiling West	Floor East	Floor West	Plastic Walls N	Plastic Walls S	Plastic Walls E	Plastic Walls W
0.0	17.30	17.10	15.20	15.20	15.70	15.80	15.70	15.90
5.0	17.2	17.1	15.2	16.1	15.6	15.8	15.7	15.8
10.0	17.6	17.2	15.2	16.2	15.5	15.8	15.7	15.9
15.0	17.7	17.4	15.1	16.1	15.4	15.7	15.6	15.9
20.0	17.6	17.7	15.1	16.1	15.4	15.7	15.6	16.0
25.0	17.8	17.7	15.1	16.1	15.4	15.7	15.6	15.9
30.0	17.4	17.5	15.0	15.5	15.4	15.6	15.6	15.9
35.0	17.2	17.1	15.0	15.3	15.3	15.6	15.5	15.8
40.0	17.3	17.0	14.9	15.3	15.2	15.6	15.4	15.7
45.0	17.7	17.1	14.9	15.2	15.3	15.6	15.4	15.7
50.0	17.5	17.1	14.9	15.2	15.3	15.6	15.4	15.7
55.0	17.2	17.1	14.8	15.1	15.3	15.6	15.5	15.7
60.0	17.8	17.1	14.9	15.1	15.3	15.6	15.6	15.8
65.0	18.1	17.2	14.8	15.2	15.3	15.6	15.6	15.8
70.0	18.5	17.4	14.8	15.2	15.4	15.7	15.6	15.8
75.0	18.4	17.6	14.8	15.3	15.4	15.7	15.7	15.9
80.0	17.8	17.9	14.8	15.2	15.5	15.8	15.7	16.0
85.0	17.8	18.3	14.8	15.3	15.6	15.8	15.8	15.9
90.0	17.9	18.4	14.8	15.3	15.6	15.8	15.8	15.9
95.0	17.9	18.6	14.8	15.4	15.7	15.9	15.9	15.1
100.0	17.8	18.6	14.8	15.4	15.7	16.0	15.9	16.1
105.0	17.9	18.7	14.8	15.8	15.7	15.9	15.9	16.1
110.0	17.9	18.7	14.8	15.8	15.8	16.0	16.1	16.2
115.0	18.4	18.9	14.8	15.8	15.8	16.0	15.1	16.2
120.0	18.7	19.3	14.8	15.8	15.9	16.1	16.1	16.3
125.0	18.5	19.5	14.8	15.8	16.0	16.2	16.2	16.4
130.0	18.8	19.4	14.8	15.9	16.1	16.2	16.3	16.4
135.0	19.3	19.3	14.8	15.8	16.1	16.2	16.2	16.4
140.0	19.8	19.4	14.8	15.8	16.0	16.2	16.3	16.4
145.0	19.9	19.3	14.8	15.8	15.9	16.2	16.2	16.5
150.0	20.0	19.3	14.9	15.9	15.9	16.2	16.3	16.5
155.0	20.0	19.5	14.8	15.8	16.0	16.3	16.3	16.5
160.0	19.4	19.4	14.8	15.8	15.1	16.3	16.3	16.5
165.0	18.9	19.2	14.9	15.8	16.0	16.3	16.3	16.4
170.0	18.9	19.0	14.8	15.8	16.0	16.3	16.3	16.5
175.0	19.2	19.1	14.9	15.8	16.1	16.3	16.3	16.6
180.0	20.0	19.4	14.9	15.8	16.1	16.3	16.4	16.6
185.0	20.5	19.8	14.9	15.8	16.2	16.4	16.5	16.7
190.0	20.6	20.1	14.9	15.8	16.2	16.4	16.5	16.7
195.0	20.1	20.1	14.9	15.8	16.3	16.4	16.5	16.7
200.0	20.3	19.9	14.9	15.8	16.3	16.4	16.5	16.8
205.0	21.2	20.3	14.9	15.8	16.3	16.4	16.6	16.8
210.0	22.5	21.0	14.9	15.9	16.4	16.6	16.7	16.9
215.0	22.2	21.5	14.9	15.9	16.6	16.7	16.8	16.9
220.0	21.0	21.3	14.9	15.9	16.6	16.7	16.8	16.9
225.0	20.8	21.1	15.0	15.8	16.7	16.7	16.8	17.0
230.0	20.2	20.8	15.0	15.9	16.7	16.8	16.8	17.1
235.0	19.4	20.3	15.0	15.9	16.7	16.7	16.8	16.9
240.0	19.0	19.7	15.0	15.9	16.6	16.7	16.7	16.9
245.0	18.8	19.4	15.0	15.9	16.6	16.7	16.8	16.8
250.0	18.4	19.2	15.0	15.9	16.5	16.6	16.7	16.8
255.0	18.2	18.8	15.0	15.9	16.4	16.6	16.6	16.8
260.0	18.1	18.7	15.0	15.9	16.4	16.6	16.5	16.7
265.0	17.8	18.4	15.0	15.9	16.4	16.5	16.6	16.7
270.0	17.7	18.2	15.0	15.9	16.3	16.4	16.5	16.6
275.0	17.9	18.1	15.0	15.8	16.3	16.4	16.4	16.6
280.0	17.8	17.9	14.9	15.8	16.3	16.4	16.5	16.6
285.0	17.8	17.9	14.9	15.9	16.3	16.4	16.5	16.6
290.0	17.8	17.9	15.0	15.9	16.5	16.6	16.7	16.8

AFSS RUN #9 DAY 2149

Test Time (min)	Thermocouple Readout by Position SIDE A							
	1	2	3	4	5	6	7	8
0.0	16.1	15.9	15.8	15.7	16.3	16.2	16.2	16.1
5.0	15.9	15.7	15.2	15.1	16.2	16.1	15.9	15.4
10.0	15.1	14.2	11.9	9.6	15.6	14.8	14.4	10.4
15.0	13.6	12.1	7.9	1.3	14.2	12.4	11.3	4.4
20.0	11.6	9.3	0.4	0.0	12.7	8.8	6.3	2.8
25.0	8.8	4.2	-0.4	0.9	10.4	2.3	4.0	2.7
30.0	3.6	-1.2	-0.2	0.7	6.6	-2.1	4.1	2.9
35.0	-0.8	-1.4	-0.1	0.9	2.6	-2.2	4.2	3.2
40.0	-1.3	-1.7	-0.2	1.0	2.9	-2.5	4.3	3.3
45.0	-2.0	-2.2	-0.3	0.6	2.2	-2.0	3.8	2.9
50.0	-1.3	-1.2	-0.2	0.7	2.2	-2.1	3.7	2.5
55.0	-1.6	-1.9	-0.1	0.8	2.7	-2.2	4.2	3.1
60.0	-1.7	-2.0	-0.3	1.1	2.6	-2.0	4.1	3.1
65.0	-1.2	-2.0	0.1	1.3	2.9	-2.0	4.3	3.0
70.0	-1.3	-1.9	-0.1	0.8	2.2	-1.8	4.4	3.1
75.0	-1.4	-2.3	-0.1	0.8	2.9	-1.8	4.2	2.9
80.0	-1.2	-2.5	0.0	0.7	3.0	-1.7	4.0	2.9
85.0	-1.4	-2.5	0.0	1.8	2.3	-1.6	4.1	3.6
90.0	-0.6	-2.6	0.0	1.2	3.2	-1.4	4.2	3.6
95.0	-1.4	-2.7	0.0	1.2	3.1	-1.6	4.4	3.4
100.0	-0.9	-2.8	0.1	1.5	3.1	-1.3	4.4	3.7
105.0	-1.1	-2.8	-0.1	1.3	3.3	-1.2	4.1	3.3
110.0	-1.1	-2.6	0.1	1.2	2.6	-1.2	4.5	3.6
115.0	-0.5	-2.6	0.0	1.6	3.1	-1.3	4.3	3.4
120.0	-0.4	-2.7	0.0	1.8	3.3	-1.0	4.2	3.2
125.0	-0.6	-2.7	0.1	1.4	3.6	-1.2	4.4	3.7
130.0	-0.2	-0.5	0.3	2.1	4.0	-0.7	4.4	3.7
135.0	-0.1	-1.7	0.0	1.8	4.1	-0.4	4.3	3.7
140.0	-0.5	-2.4	0.2	1.4	3.4	-0.7	4.3	3.6
145.0	-0.6	-2.6	0.1	1.7	4.4	-0.8	4.2	3.4
150.0	-0.4	-2.8	0.2	1.8	3.9	-1.1	4.4	3.5
155.0	-0.3	-2.4	0.1	1.7	4.1	-0.7	4.4	3.4
160.0	-0.4	-2.4	0.1	1.7	3.4	-0.8	4.4	3.4
165.0	-0.5	-2.6	0.2	1.6	3.8	-1.1	4.4	3.3
170.0	-0.2	-2.7	0.2	1.8	4.3	-0.9	4.4	3.5
175.0	-0.6	-1.9	0.3	1.6	3.7	-0.7	4.4	3.8
180.0	-0.4	-2.6	0.4	1.6	4.0	-0.5	4.7	3.7
185.0	-0.3	-2.6	0.2	1.5	4.6	-0.4	4.7	3.8
190.0	-0.3	-2.7	0.3	1.7	4.2	-0.5	4.8	3.6
195.0	-0.2	-2.6	0.4	1.6	4.4	0.7	4.4	3.5
200.0	-0.4	-2.6	0.3	1.6	4.1	0.2	4.5	3.2
205.0	-0.3	-2.7	0.2	1.8	3.8	-0.3	4.4	3.8
210.0	-0.1	-2.7	0.3	1.9	4.3	-0.2	4.8	3.7
215.0	0.0	-2.6	0.1	1.6	4.3	0.0	5.1	3.9
220.0	0.1	-2.7	0.3	1.7	3.4	-0.3	4.7	3.8
225.0	0.4	-2.8	0.2	2.2	4.3	0.2	4.6	3.4
230.0	0.3	-2.7	0.1	1.6	4.2	-0.2	4.8	3.6
235.0	0.6	-2.8	0.3	2.1	4.3	-0.1	4.6	3.5
240.0	0.0	-2.8	0.3	1.8	4.2	-0.2	4.4	3.3
245.0	0.0	-2.6	0.4	2.2	4.1	-0.2	4.6	3.5
250.0	-0.6	-2.9	0.4	2.1	4.3	-0.1	4.7	3.4
255.0	-0.3	-1.7	0.3	2.1	4.8	-0.1	4.9	3.3
260.0	-0.7	-1.9	0.0	1.8	3.8	-0.3	4.7	3.5
265.0	-0.6	-2.4	0.2	1.8	3.7	-0.3	4.7	3.7
270.0	-0.3	-2.7	0.1	1.9	3.8	-0.4	4.7	3.9
275.0	-0.2	-2.7	0.1	1.4	3.5	-0.3	5.0	3.6
280.0	-0.4	-2.8	0.0	1.4	3.4	0.0	5.0	3.7
285.0	-0.4	-2.7	0.2	1.4	3.4	-0.3	4.8	3.7
290.0	0.0	-2.7	0.8	3.2	4.0	0.1	4.9	3.7

AFSS RUN #9 DAY 2149

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	16.2	16.0	15.9	15.8	16.2	16.0	15.9	15.8
5.0	16.1	15.9	15.7	15.4	16.2	15.9	15.7	15.4
10.0	15.8	14.9	13.8	12.2	15.8	15.1	13.9	12.7
15.0	14.8	13.1	11.1	6.8	14.9	13.7	11.7	8.2
20.0	13.6	10.7	6.1	5.0	13.7	12.0	7.7	5.5
25.0	12.3	6.8	4.5	5.3	12.3	9.6	5.4	5.3
30.0	9.4	2.6	3.9	4.8	10.0	4.6	4.4	5.3
35.0	6.3	2.0	3.7	4.9	5.8	3.3	3.9	5.2
40.0	5.2	1.9	3.8	4.8	4.4	2.8	4.1	5.3
45.0	5.8	2.1	3.9	4.9	3.8	2.8	4.3	5.2
50.0	5.8	2.6	3.9	4.9	3.9	3.1	4.3	5.1
55.0	5.3	1.8	3.7	4.8	3.7	3.1	4.2	4.8
60.0	4.4	2.3	3.8	4.8	3.3	3.0	4.1	4.9
65.0	5.6	2.1	3.8	4.9	3.7	3.0	4.1	4.9
70.0	6.2	1.9	3.7	4.9	4.1	3.2	4.8	5.1
75.0	5.3	2.3	3.8	5.0	3.3	3.1	4.3	5.0
80.0	6.1	2.3	4.2	5.6	3.9	3.1	4.4	5.3
85.0	6.4	2.3	3.9	5.1	4.2	3.1	4.3	5.6
90.0	5.4	2.3	4.1	5.1	4.0	3.2	4.4	5.1
95.0	6.5	2.4	4.2	5.2	4.2	3.2	4.4	5.4
100.0	5.8	2.3	3.9	5.1	4.1	3.2	4.5	5.3
105.0	5.6	2.7	4.7	6.3	3.8	3.3	4.7	5.4
110.0	6.1	2.7	4.5	5.8	4.1	3.4	4.8	5.6
115.0	6.7	2.7	4.3	5.0	4.4	3.2	4.7	5.5
120.0	6.0	2.8	4.3	5.5	4.3	3.5	4.9	5.4
125.0	6.7	2.4	4.2	5.6	4.7	3.6	4.8	6.1
130.0	6.8	2.8	4.7	6.2	5.1	3.7	5.0	6.0
135.0	6.4	2.7	4.3	5.3	4.8	3.6	5.0	6.1
140.0	6.4	2.9	4.6	5.4	4.3	3.6	4.7	5.4
145.0	7.6	2.7	4.2	5.4	4.9	3.4	4.8	5.6
150.0	7.1	2.6	4.2	6.1	4.9	3.4	4.8	5.7
155.0	6.6	2.6	4.1	5.4	4.2	3.4	4.9	5.7
160.0	6.7	2.8	4.7	6.3	4.3	3.4	5.2	6.0
165.0	6.2	2.8	4.2	5.5	4.3	3.3	4.9	5.6
170.0	5.9	2.7	4.2	5.6	4.1	3.4	4.5	5.5
175.0	5.4	3.4	4.6	5.7	3.8	3.5	4.6	5.4
180.0	5.2	3.1	4.2	5.7	4.1	3.5	4.6	5.7
185.0	6.2	3.6	4.3	6.0	4.3	3.7	4.9	5.6
190.0	5.7	2.9	4.6	5.8	4.4	3.4	4.5	5.7
195.0	5.7	3.1	4.3	5.9	4.2	3.4	4.7	5.7
200.0	6.0	3.1	4.2	5.8	4.4	3.4	4.6	6.0
205.0	5.7	3.0	4.9	6.0	4.4	3.6	4.8	6.0
210.0	5.4	3.1	5.2	6.4	4.3	3.6	5.4	6.3
215.0	6.0	3.1	4.6	5.8	4.4	3.4	5.1	6.5
220.0	5.4	3.1	4.4	6.0	4.3	3.5	5.1	6.2
225.0	5.7	3.3	4.5	6.0	4.4	3.6	5.7	6.3
230.0	5.5	3.1	5.1	6.1	4.9	3.7	5.4	6.4
235.0	6.1	3.2	5.0	6.3	4.9	3.7	5.2	6.1
240.0	5.2	3.4	4.3	5.9	4.5	3.3	5.3	6.2
245.0	5.7	3.4	4.5	6.1	4.1	3.4	5.7	6.3
250.0	5.6	3.4	5.3	6.2	4.0	3.4	5.3	6.4
255.0	5.7	3.4	4.6	5.7	4.0	3.4	4.9	5.9
260.0	5.2	3.2	4.5	5.7	3.9	3.2	4.9	6.0
265.0	5.7	3.3	4.6	5.6	3.8	3.4	4.9	6.1
270.0	5.5	3.2	4.8	5.9	3.7	3.1	4.8	6.1
275.0	4.9	3.0	4.2	5.6	3.5	3.3	4.9	6.1
280.0	5.3	3.1	4.0	5.6	3.8	3.4	4.6	5.8
285.0	4.5	3.0	4.2	5.8	3.6	3.4	4.6	5.6
290.0	4.9	2.7	4.2	5.8	3.8	3.2	4.6	5.7

AFSS RUN #9 DAY 2149

Test Time (min)	Temperature at SOFI Depth: 16.7mm (.66in)	14.0mm (.55in)	32.5mm (1.28in)
0.0	15.9 C	15.8 C	15.9 C
5.0	12.4	12.2	15.6
10.0	4.7	5.1	14.3
15.0	-1.6	-5.8	12.6
20.0	-2.2	-6.7	9.4
25.0	-2.9	-5.0	8.0
30.0	-3.3	-6.6	7.3
35.0	-2.5	-5.8	7.3
40.0	-2.9	-6.7	7.0
45.0	-2.9	-7.1	6.6
50.0	-3.3	-7.3	7.2
55.0	-3.7	-7.7	6.7
60.0	-3.8	-7.6	7.2
65.0	-3.6	-7.9	7.1
70.0	-3.8	-8.2	7.6
75.0	-3.9	-7.6	7.3
80.0	-3.1	-8.4	7.4
85.0	-3.6	-7.6	7.6
90.0	-4.1	-8.1	7.1
95.0	-4.2	-8.4	7.3
100.0	-4.1	-8.6	7.7
105.0	-3.8	-8.7	7.6
110.0	-3.5	-8.9	7.7
115.0	-3.3	-8.9	7.7
120.0	-0.4	-8.4	7.5
125.0	-2.0	-8.7	7.8
130.0	-2.0	-8.1	8.1
135.0	-0.9	-8.6	7.8
140.0	-2.4	-8.6	7.9
145.0	-2.3	-8.2	7.7
150.0	-2.1	-8.3	7.8
155.0	-2.6	-7.8	7.3
160.0	-2.1	-8.1	8.1
165.0	-2.4	-8.4	7.7
170.0	-1.6	-8.3	7.6
175.0	-2.0	-8.6	7.6
180.0	-2.0	-8.6	7.9
185.0	-1.2	-8.2	8.0
190.0	-1.7	-8.2	7.9
195.0	-1.9	-8.4	7.8
200.0	-2.2	-8.7	7.6
205.0	-1.8	-7.9	8.6
210.0	-1.3	-8.1	8.1
215.0	-1.7	-8.6	7.8
220.0	-1.6	-8.3	8.6
225.0	-1.3	-8.7	8.2
230.0	-0.4	-8.7	8.4
235.0	-1.1	-8.3	8.0
240.0	-1.7	-8.8	8.0
245.0	-1.4	-8.3	8.1
250.0	-1.2	-8.8	8.1
255.0	-1.8	-9.2	7.7
260.0	-1.6	-9.4	8.0
265.0	-1.7	-9.4	7.9
270.0	-0.6	-8.9	8.1
275.0	-1.4	-9.5	7.8
280.0	-1.8	-9.8	7.6
285.0	-2.2	-9.5	7.6
290.0	-2.3	-8.4	7.8

AFSS RUN # 9 DAY 2149

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	16.2	15.0	15.0	15.0
	16.0	15.0	14.8	15.0
	15.9	14.4	14.8	15.3
	15.8	14.7	14.5	15.3
	15.7	14.4	14.6	15.1
	15.7	14.4	15.0	15.1
	15.6	14.4	14.5	15.5
	15.6	14.4	14.2	14.6
	15.6	14.4	13.3	14.3
	15.5	14.4	11.1	13.8

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	16.1	15.7	14.0	14.4
	16.0	15.6	13.8	14.2
	15.9	15.6	13.6	13.3
	15.8	15.5	12.7	13.3
	15.7	15.5	12.2	12.7
	15.7	15.5	11.1	11.6
	15.6	15.3	10.0	10.3
	15.5	14.8	6.6	7.2
	15.4	15.3	3.7	5.3
	15.4	15.0	3.8	5.3

AFSS RUN # 9 DAY 2149

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 16.0	15.7	-5.0	-6.5
15.9	15.5	-0.5	1.6
15.8	15.6	-1.1	-0.2
15.7	15.6	-0.7	-0.5
15.7	15.5	-2.0	-1.6
15.6	15.5	-2.7	-2.7
15.5	15.6	0.0	-0.7
15.4	15.5	-1.5	-2.1
15.3	15.3	-1.1	-0.1
15.2	15.3	0.5	0.0

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 15.8	15.5	5.0	5.0
15.7	15.5	3.8	4.4
15.7	16.1	3.6	3.8
15.6	15.4	3.8	3.8
15.6	15.5	3.8	4.0
15.5	15.5	5.0	4.4
15.4	15.0	3.8	4.5
15.3	15.2	4.0	3.8
15.2	14.9	3.2	3.8
15.1	14.7	3.6	4.2

AFSS RUN # 9 DAY 2149

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	15.8	0.3	0.5	15.5
	15.7	15.6	-8.3	-6.8
	15.7	15.5	-2.2	0.3
	15.6	15.5	-2.2	-1.5
	15.6	15.5	-1.1	-0.2
	15.5	15.5	-1.1	-1.6
	15.4	15.5	-1.1	0.0
	15.3	15.5	0.0	2.2
	15.2	15.5	0.0	0.3
	15.1	15.0	0.0	0.7

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	15.9	1.3	15.5	3.7
	15.8	15.8	4.4	5.8
	15.8	16.1	4.4	4.7
	15.7	16.1	4.4	5.0
	15.7	16.1	3.9	4.4
	15.6	16.1	4.4	5.0
	15.5	16.1	3.8	4.4
	15.4	16.1	5.0	4.5
	15.3	15.5	3.8	4.0
	15.2	15.2	3.7	4.4

AFSS RUN # 9 DAY 2149

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 16.1	16.1	-3.3	-3.4
15.9	16.1	-1.6	-0.5
15.9	16.1	-1.1	1.1
15.8	16.0	-0.5	1.1
15.8	16.1	-1.5	-0.8
15.8	15.5	-2.1	-1.1
15.6	15.6	0.0	0.9
15.5	15.5	0.0	0.5
15.4	15.2	-0.5	1.1
15.3	15.7	1.6	1.6

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 16.3	16.6	5.5	5.6
16.2	16.3	4.4	5.5
16.1	16.1	5.0	5.5
16.1	16.1	4.4	5.0
16.0	16.1	4.4	5.5
15.9	16.1	5.5	5.1
15.8	16.1	5.5	5.5
15.7	16.1	5.0	5.0
15.6	16.1	4.4	4.7
15.4	16.1	5.5	6.1

AFSS RUN # 9 DAY 2149

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 16.5	16.6	-7.7	-7.5
16.4	16.6	-1.3	0.0
16.3	16.3	-0.6	-0.5
16.2	16.5	0.1	0.2
16.2	16.6	-1.7	-2.1
16.1	16.3	-2.2	-0.5
15.9	16.1	1.5	1.1
15.8	16.1	-0.6	0.5
15.7	15.6	0.5	1.6
15.6	15.5	2.7	2.7

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 16.7	16.8	7.2	5.7
16.6	16.6	4.4	4.4
16.5	17.2	5.0	5.0
16.4	16.6	5.0	5.0
16.3	16.5	5.0	5.5
16.2	16.6	4.4	4.4
16.1	16.2	5.5	5.5
16.1	16.1	5.0	5.2
15.9	16.1	4.0	4.4
15.7	16.0	4.4	5.0

AFSS RUN # 9 DAY 2149

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	16.7	16.6	-6.1	-4.3
	16.6	16.6	-1.1	0.0
	16.6	16.6	-0.5	-0.3
	16.4	16.5	-0.2	-0.5
	16.4	16.1	-1.5	-2.1
	16.2	16.2	-1.5	-1.1
	16.1	15.5	1.1	0.0
	16.0	15.5	1.1	0.0
	15.8	16.1	1.0	1.6
	15.7	15.5	1.6	2.0

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	16.8	16.6	7.2	6.1
	16.7	17.2	4.4	5.0
	16.7	17.0	5.5	5.5
	16.6	16.6	5.0	5.5
	16.4	16.2	4.4	5.0
	16.3	16.6	4.3	5.0
	16.2	16.4	5.5	6.1
	16.0	16.1	5.5	5.5
	15.9	16.1	4.4	5.1
	15.8	16.1	4.4	5.5

AFSS RUN # 9 DAY 2149

TEST TIME 180.0 MINS

SIDE A

	Emissivity Panel		SCFI Panel Pyrometer Data	
	Thermocouple	Pyrometer	Left	Right
TOP	16.9	17.3	-6.6	-6.1
	16.8	16.6	-1.0	0.5
	16.7	17.3	-0.5	0.0
	16.6	16.6	0.8	1.6
	16.4	16.8	-1.0	0.1
	16.3	16.6	1.1	1.6
	16.2	16.6	2.0	1.6
	16.1	16.1	1.2	1.6
	15.9	16.1	1.1	1.6
	15.8	16.1	2.2	2.7

TEST TIME 195.0 MINS

SIDE B

	Emissivity Panel		SCFI Panel Pyrometer Data	
	Thermocouple	Pyrometer	Left	Right
TOP	17.1	17.1	5.8	6.6
	16.9	17.2	5.5	5.5
	16.8	17.2	6.1	6.5
	16.7	16.6	5.0	5.6
	16.6	16.6	5.5	5.5
	16.4	17.2	5.0	5.0
	16.3	16.6	5.5	6.1
	16.1	16.5	5.5	5.0
	16.0	16.1	4.4	5.0
	15.8	16.1	5.2	6.8

AFSS RUN # 9 DAY 2149

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel			SOFI Panel Pyrometer Data	
	Thermocouple	Pyrometer	Left	Right
TOP	17.3	17.7	-6.1	-5.0
	17.2	17.7	-1.0	1.1
	17.0	17.0	0.2	1.6
	16.8	16.9	0.5	1.1
	16.7	16.6	-1.1	1.1
	16.5	16.6	0.0	1.1
	16.4	16.7	1.1	1.6
	16.2	16.6	0.0	1.6
	16.1	16.4	0.0	1.6
	15.9	16.1	1.1	1.5

TEST TIME 225.0 MINS

SIDE B

Emissivity Panel			SOFI Panel Pyrometer Data	
	Thermocouple	Pyrometer	Left	Right
TOP	17.7	17.7	7.7	7.2
	17.4	17.7	5.5	6.2
	17.2	17.2	6.6	6.1
	16.9	17.2	5.5	6.6
	16.8	17.2	5.5	6.1
	16.6	16.9	5.0	5.5
	16.4	16.6	5.5	6.1
	16.3	16.2	5.5	6.1
	16.2	16.6	5.2	7.0
	16.1	16.1	6.1	7.2

AFSS RUN # 9 DAY 2149

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel			SOFI Panel Pyrometer Data	
	Thermocouple	Pyrometer	Left	Right
TOP	17.7	17.8	-4.4	-3.5
	17.4	17.7	-0.5	1.6
	17.1	17.7	1.1	1.0
	16.9	17.2	1.1	1.7
	16.8	17.2	-0.5	-0.2
	16.7	16.7	0.6	1.1
	16.5	16.6	1.2	1.1
	16.4	16.5	1.2	0.8
	16.2	16.1	1.7	2.1
	16.1	16.3	1.5	1.7

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel			SOFI Panel Pyrometer Data	
	Thermocouple	Pyrometer	Left	Right
TOP	17.4	17.7	6.1	6.4
	17.2	17.2	5.6	5.8
	17.0	17.5	5.8	6.1
	16.8	16.6	5.6	6.1
	16.7	16.6	6.6	6.6
	16.6	16.6	5.4	6.1
	16.4	16.6	6.1	6.4
	16.3	16.6	5.5	6.0
	16.2	16.1	5.5	6.5
	16.0	15.5	6.1	7.1

AFSS RUN # 9 DAY 2149

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel: SOFI Panel: Pyrometer Data

Thermocouple		Pyrometer	Left	Right
TOP	17.2	16.6	-5.4	-5.2
	17.1	16.6	-0.5	0.0
	16.8	16.6	0.0	0.6
	16.7	16.1	0.0	-0.1
	16.6	16.3	-1.6	-1.7
	15.4	16.0	-0.2	0.0
	16.3	16.0	0.0	0.5
	16.2	16.2	0.0	0.5
	16.1	16.2	0.0	1.0
	15.9	15.5	1.1	1.1

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel SOFI Panel: Pyrometer Data

Thermocouple		Pyrometer	Left	Right
TOP	17.1	17.2	5.5	7.2
	17.0	16.9	2.2	3.8
	16.8	16.7	3.8	3.7
	16.7	16.6	3.8	4.4
	16.5	16.7	4.4	5.5
	16.4	16.6	5.0	5.0
	16.3	16.6	5.0	5.0
	16.2	16.1	4.7	4.7
	16.1	16.6	4.0	4.4
	15.9	16.1	3.8	5.0

AFSS RUN #10 DAY 2154

Test Time (min)	4 Meter Dewcell Dew point	4 Meter Dewcell Temp	1 Meter Dewcell Dew point	1 Meter Dewcell Temp	Radiometers w/cm2 West	Radiometers w/cm2 East
0.0	11.3 C	15.3 C	14.1 C	13.9 C	0.000	-0.230
5.0	13.2	15.0	14.4	14.0	0.000	0.000
10.0	12.6	15.1	14.4	14.0	0.000	0.460
15.0	13.1	14.6	14.5	14.0	0.920	1.379
20.0	13.4	15.0	14.7	14.0	1.839	3.218
25.0	14.0	14.3	14.9	14.1	3.218	5.977
30.0	14.0	14.1	14.9	14.0	4.598	6.897
35.0	14.0	13.9	14.8	13.9	4.828	6.897
40.0	14.1	13.8	14.8	13.9	5.057	6.667
45.0	13.6	13.7	14.7	13.7	4.828	6.207
50.0	13.5	13.6	14.6	13.7	4.828	5.747
55.0	13.4	13.4	14.4	13.5	3.678	4.368
60.0	13.2	13.3	13.6	12.9	3.448	4.138
65.0	12.9	13.2	13.5	12.8	3.218	4.368
70.0	12.7	13.1	13.6	13.0	3.218	4.598
75.0	12.7	13.1	13.3	12.7	3.448	4.598
80.0	12.5	13.4	13.3	12.7	3.448	4.598
85.0	12.5	13.2	13.4	12.7	3.448	4.598
90.0	12.6	13.1	13.3	12.7	3.448	4.598
95.0	12.4	13.1	13.2	12.6	3.448	4.598
100.0	12.3	13.1	13.2	12.5	3.448	4.368
105.0	12.2	13.3	13.0	12.4	3.218	4.368
110.0	12.1	13.1	13.2	12.5	3.448	4.598
115.0	12.2	13.3	13.1	12.4	3.908	4.368
120.0	12.4	12.9	13.2	12.4	3.678	4.138
125.0	12.6	12.6	13.3	12.5	3.678	4.138
130.0	12.5	13.1	13.3	12.6	3.678	4.138
135.0	12.5	12.8	13.2	12.5	3.448	4.138
140.0	11.8	12.4	12.9	12.2	3.448	4.138
145.0	11.5	12.7	12.2	11.7	3.448	4.368
150.0	11.3	12.4	12.1	11.6	3.678	4.368
155.0	10.8	12.0	11.6	11.2	3.678	4.828
160.0	11.3	12.0	11.7	11.2	3.678	4.598
165.0	11.1	11.8	11.8	11.2	3.678	4.598
170.0	10.3	11.7	11.3	10.9	3.908	4.598
175.0	10.7	11.4	11.5	11.0	3.908	4.828
180.0	10.9	11.1	11.7	11.1	3.678	4.368
185.0	11.0	11.2	11.6	10.9	3.678	4.368
190.0	9.8	11.3	11.1	10.5	3.678	4.598
195.0	10.5	11.1	11.0	10.5	3.908	4.828
200.0	10.3	11.2	11.2	10.6	3.908	4.368
205.0	9.9	11.2	10.6	10.2	3.678	4.828
210.0	10.0	11.0	11.0	10.4	3.908	4.828
215.0	9.0	10.7	10.2	9.9	3.908	5.057
220.0	9.5	11.0	10.3	10.2	4.138	5.287
225.0	9.6	10.9	10.5	10.1	4.138	5.287
230.0	10.2	10.3	10.6	10.0	4.138	5.057
235.0	10.5	10.1	10.7	10.0	4.138	4.368
240.0	10.0	10.0	10.7	10.0	4.138	4.368
245.0	10.3	10.1	10.9	10.1	3.908	3.908
250.0	9.9	9.5	10.8	10.1	3.908	4.138
255.0	10.6	10.0	11.0	10.1	3.908	4.138
260.0	10.7	10.0	11.3	10.3	3.678	3.678
265.0	10.9	10.1	11.2	10.3	3.448	3.678
270.0	11.0	10.2	11.3	10.4	3.678	3.678
275.0	10.7	10.2	11.3	10.2	3.678	3.678
280.0	10.5	10.2	11.2	10.2	3.678	3.678
285.0	10.3	10.1	11.2	10.2	3.678	3.678
290.0	10.1	10.2	11.2	10.2	3.678	3.678

AFSS RUN #10 DAY 2154

Test Time (min)	Ceiling East	Ceiling West	Floor East	Floor West	Plastic Walls N	Plastic Walls S	Plastic Walls E	Plastic Walls W
0.0	17.30	14.80	15.00	15.10	15.20	14.50	14.40	14.90
5.0	15.7	14.8	15.0	15.1	15.2	14.6	14.9	15.0
10.0	13.2	14.6	15.1	15.1	15.1	14.7	14.7	15.0
15.0	12.4	14.3	14.9	15.1	14.9	14.7	14.6	15.1
20.0	11.2	14.1	14.9	15.1	14.8	14.6	14.5	15.1
25.0	10.4	13.9	14.9	14.9	14.7	14.6	14.5	15.0
30.0	10.1	13.7	14.8	14.8	14.5	14.5	14.4	14.8
35.0	9.9	13.6	14.8	14.8	14.3	14.3	14.3	14.7
40.0	9.4	13.4	14.7	14.8	14.3	14.2	14.1	14.6
45.0	9.1	13.3	14.7	14.5	14.2	14.2	14.0	14.7
50.0	8.6	13.2	14.6	14.6	14.1	14.1	13.9	14.5
55.0	8.4	13.0	14.6	14.6	14.0	14.0	13.7	14.3
60.0	8.6	12.9	14.4	14.4	13.7	13.6	13.4	14.2
65.0	8.7	12.8	14.4	14.6	13.6	13.4	13.2	14.1
70.0	8.4	12.6	14.3	14.4	13.4	13.6	13.2	13.8
75.0	8.8	12.5	14.3	14.3	13.4	13.4	13.2	13.7
80.0	9.0	12.6	14.2	14.2	13.4	13.3	13.1	13.6
85.0	9.1	12.6	14.2	14.2	13.4	13.4	13.1	13.6
90.0	9.2	12.6	14.1	14.2	13.4	13.3	13.2	13.6
95.0	8.8	12.5	14.1	14.2	13.3	13.3	13.2	13.4
100.0	8.8	12.5	14.1	14.3	13.3	13.2	13.1	13.4
105.0	8.8	12.4	14.0	14.1	13.3	13.2	13.0	13.4
110.0	8.9	12.3	13.9	14.0	13.2	13.1	12.9	13.4
115.0	8.4	12.3	13.9	14.2	13.2	13.1	12.9	13.4
120.0	7.7	12.2	13.9	14.3	13.2	13.1	12.7	13.3
125.0	7.7	12.1	13.8	14.1	13.1	13.0	12.8	13.3
130.0	7.6	11.9	13.7	14.2	13.2	13.1	12.8	13.3
135.0	8.3	11.9	13.7	13.9	12.9	12.9	12.6	13.2
140.0	8.8	11.9	13.7	14.1	12.8	12.8	12.5	13.2
145.0	8.7	11.9	13.6	13.9	12.6	12.6	12.2	13.3
150.0	8.2	11.9	13.6	13.8	12.3	12.4	12.1	13.0
155.0	8.6	11.8	13.4	13.4	12.2	12.1	11.9	12.8
160.0	8.4	11.7	13.4	13.6	12.1	12.1	11.8	12.6
165.0	8.7	11.6	13.3	13.6	12.0	12.1	11.7	12.5
170.0	8.7	11.5	13.2	13.3	11.8	11.9	11.6	12.3
175.0	8.5	11.4	13.2	13.3	11.7	11.7	11.6	12.3
180.0	8.4	11.4	13.2	13.6	11.7	11.8	11.6	12.2
185.0	7.9	11.2	13.1	13.2	11.6	11.7	11.6	12.2
190.0	8.1	11.1	13.0	13.3	11.4	11.5	11.3	12.0
195.0	7.7	11.0	12.9	13.1	11.4	11.4	11.3	11.9
200.0	7.2	10.9	12.9	12.9	11.3	11.4	11.2	11.9
205.0	7.4	10.8	12.8	13.2	11.3	11.2	11.0	11.7
210.0	6.8	10.7	12.7	12.8	11.1	11.2	10.9	11.6
215.0	6.8	10.5	12.7	12.7	10.9	10.9	10.9	11.4
220.0	6.3	10.4	12.4	13.1	11.0	11.4	10.8	11.4
225.0	6.5	10.3	12.5	12.7	10.9	11.1	10.7	11.4
230.0	7.0	10.3	12.4	12.3	10.6	10.8	10.6	11.3
235.0	7.1	10.3	12.4	12.6	10.6	10.7	10.7	11.3
240.0	7.4	10.3	12.3	12.3	10.6	10.8	10.7	11.2
245.0	6.9	10.4	12.3	12.4	10.6	10.8	10.7	11.3
250.0	6.8	10.3	12.3	12.4	10.7	10.9	10.7	11.3
255.0	6.6	10.3	12.3	12.5	10.7	10.8	10.6	11.3
260.0	6.2	10.2	12.3	12.5	10.7	10.8	10.7	11.3
265.0	6.3	10.2	12.3	12.4	10.7	10.9	10.8	11.3
270.0	6.3	10.1	12.2	12.3	10.8	11.0	10.8	11.4
275.0	6.6	10.2	12.2	12.5	10.8	10.9	10.8	11.4
280.0	6.9	10.2	12.2	12.4	10.8	10.9	10.8	11.3
285.0	6.9	10.3	12.1	12.1	10.7	10.8	10.8	11.3
290.0	6.9	10.3	12.1	12.2	10.7	10.8	10.8	11.3

AFSS RUN #10 DAY 2154

Test Time (min)	Thermocouple Readout by Position SIDE A 1	2	3	4	5	6	7	8
0.0	16.3	15.8	15.5	15.2	16.3	15.8	15.6	15.4
5.0	16.2	15.7	15.2	14.9	16.2	15.8	15.5	15.0
10.0	15.4	14.3	12.1	10.5	15.6	14.6	13.9	10.3
15.0	13.7	12.0	8.2	1.2	14.3	12.2	10.5	3.1
20.0	11.4	8.9	0.8	0.1	12.2	8.4	5.6	2.1
25.0	8.5	4.9	-0.7	1.3	9.8	3.6	3.8	2.7
30.0	3.8	-1.7	-1.4	0.4	6.2	-0.6	3.6	3.1
35.0	-0.9	-2.6	-1.3	0.4	2.5	-1.6	3.4	2.9
40.0	-1.8	-2.6	-0.9	0.8	1.8	-1.8	3.4	2.4
45.0	-2.0	-2.6	-1.2	0.3	1.6	-2.2	2.8	1.3
50.0	-3.0	-2.9	-1.4	-0.4	0.8	-2.2	2.8	1.4
55.0	-3.2	-3.4	-2.1	-1.1	1.2	-1.9	2.5	1.1
60.0	-3.9	-4.3	-2.3	-0.9	0.3	-2.4	1.9	0.9
65.0	-3.3	-4.4	-2.6	-0.8	0.2	-2.8	2.1	1.2
70.0	-3.1	-4.4	-2.7	-1.0	0.7	-2.8	1.6	0.8
75.0	-3.1	-5.0	-3.2	-1.2	0.4	-3.0	1.6	0.6
80.0	-3.6	-5.1	-3.3	-1.4	0.2	-2.9	1.9	0.8
85.0	-3.3	-5.2	-3.4	-1.5	0.4	-3.1	1.6	0.6
90.0	-3.8	-5.3	-2.8	-0.3	0.1	-3.3	2.5	1.4
95.0	-3.1	-5.5	-3.5	-1.3	-0.1	-3.7	1.9	0.7
100.0	-3.6	-5.7	-3.4	-0.6	0.3	-3.7	1.9	0.4
105.0	-4.0	-6.2	-3.8	-1.7	0.1	-3.4	1.5	0.0
110.0	-3.9	-6.3	-4.1	-1.7	0.2	-3.9	1.3	-0.1
115.0	-4.1	-6.6	-4.1	-1.6	1.0	-4.0	1.4	-0.1
120.0	-3.7	-6.6	-4.2	-1.6	0.6	-4.2	1.2	-0.1
125.0	-3.8	-7.2	-4.5	-1.6	0.3	-4.0	1.3	-0.2
130.0	-3.7	-7.1	-4.1	-1.3	0.3	-4.4	1.3	-0.1
135.0	-4.2	-7.4	-4.7	-1.6	0.0	-4.5	1.4	0.0
140.0	-4.9	-7.8	-4.8	-1.5	-0.4	-4.6	1.0	0.1
145.0	-5.2	-8.3	-5.3	-2.0	0.1	-5.3	0.7	-0.6
150.0	-5.0	-8.7	-5.8	-2.2	-0.3	-5.2	0.3	-0.9
155.0	-6.1	-9.4	-6.4	-2.6	-0.5	-6.1	0.2	-1.1
160.0	-5.8	-9.7	-6.8	-2.8	-0.8	-6.1	0.1	-1.4
165.0	-6.0	-9.7	-6.6	-2.6	-1.0	-6.2	0.0	-1.5
170.0	-6.2	-9.9	-6.4	-2.1	-1.2	-6.5	0.2	-1.1
175.0	-6.8	-10.6	-7.4	-3.3	-1.6	-7.0	-0.4	-1.8
180.0	-6.5	-10.5	-7.1	-1.4	-1.3	-7.2	-0.2	-1.1
185.0	-6.7	-10.6	-7.3	-2.2	-1.6	-7.1	0.2	-1.3
190.0	-7.4	-11.3	-8.1	-3.4	-1.7	-7.6	-0.4	-2.4
195.0	-7.7	-11.7	-8.0	-3.0	-1.6	-7.8	-0.8	-2.3
200.0	-7.8	-11.6	-7.9	-2.3	-2.2	-7.8	-0.4	-1.9
205.0	-8.2	-12.4	-8.8	-3.9	-1.6	-7.8	-0.7	-2.3
210.0	-8.3	-12.4	-8.3	-2.9	-2.0	-8.4	-0.8	-2.6
215.0	-8.9	-13.0	-9.2	-3.7	-2.8	-8.8	-1.6	-2.9
220.0	-7.9	-12.7	-9.3	-4.2	-2.9	-9.1	-1.3	-3.3
225.0	-8.6	-12.9	-9.4	-4.0	-2.2	-9.1	-1.3	-3.0
230.0	-9.1	-13.4	-10.1	-4.1	-2.6	-9.9	-1.7	-3.5
235.0	-8.2	-13.2	-10.0	-3.0	-1.5	-9.2	-1.3	-2.4
240.0	-9.1	-13.5	-10.4	-4.4	-2.5	-9.8	-1.7	-3.4
245.0	-8.7	-13.4	-10.7	-4.8	-1.9	-9.3	-1.9	-3.8
250.0	-9.4	-13.9	-10.5	-4.5	-2.7	-9.3	-1.8	-3.7
255.0	-9.7	-14.3	-10.9	-4.8	-2.6	-9.7	-1.7	-3.7
260.0	-8.9	-14.1	-9.7	-2.3	-2.8	-9.7	-0.8	-2.2
265.0	-8.5	-14.1	-8.8	-1.4	-1.7	-9.1	-0.6	-1.9
270.0	-8.4	-14.1	-10.3	-3.6	-2.1	-9.3	-1.2	-2.8
275.0	-8.2	-13.9	-10.2	-3.9	-2.4	-9.7	-1.7	-3.3
280.0	-8.3	-14.3	-10.7	-4.3	-2.1	-9.9	-1.9	-3.4
285.0	-7.9	-14.4	-10.8	-4.7	-1.6	-10.2	-2.1	-3.8
290.0	-8.2	-14.6	-10.9	-3.9	-2.2	-10.2	-1.9	-3.8

AFSS RUN #10 DAY 2154

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	16.7	15.9	15.7	15.4	16.8	15.9	15.7	15.4
5.0	16.7	15.8	15.5	15.2	16.7	15.8	15.6	15.2
10.0	16.2	14.9	13.7	12.1	16.2	15.1	13.8	12.8
15.0	15.1	12.8	10.7	6.3	15.2	13.6	11.3	7.7
20.0	13.7	10.2	6.2	5.5	13.8	11.6	7.6	5.3
25.0	11.8	6.7	3.3	4.7	11.9	9.0	4.2	3.9
30.0	9.2	2.3	2.9	3.9	9.4	4.1	3.3	3.6
35.0	4.8	1.2	2.3	3.3	5.3	2.1	2.8	3.6
40.0	3.6	0.7	2.5	4.4	3.8	1.6	3.1	3.8
45.0	3.4	0.6	2.3	3.8	2.8	1.5	2.3	3.7
50.0	2.6	1.3	3.0	4.1	1.9	1.1	2.7	3.8
55.0	3.4	0.2	2.1	3.0	2.1	1.4	2.6	3.7
60.0	2.6	0.0	1.8	3.2	1.0	0.8	1.8	2.9
65.0	2.9	0.1	1.7	2.7	1.1	0.8	1.9	2.6
70.0	2.7	-0.1	1.6	3.0	1.1	0.4	1.7	2.7
75.0	3.0	0.0	1.6	2.8	1.2	0.8	1.8	3.0
80.0	2.2	-0.1	1.8	3.8	0.7	0.2	2.1	2.9
85.0	2.3	-0.1	1.8	3.8	0.6	0.1	1.6	2.9
90.0	2.3	-0.2	1.3	3.2	0.6	0.2	1.5	2.6
95.0	2.2	-0.5	1.2	2.3	0.5	0.1	1.3	2.3
100.0	2.4	-0.2	2.2	3.8	0.3	0.0	1.3	2.9
105.0	2.1	-0.3	1.7	3.1	0.3	0.0	1.1	2.5
110.0	1.9	-0.8	1.0	2.0	0.2	-0.2	1.4	2.2
115.0	2.8	1.1	1.2	2.7	0.7	0.2	1.0	2.0
120.0	5.4	2.9	1.7	2.7	1.8	1.0	1.7	2.3
125.0	5.5	2.7	1.0	1.8	2.6	1.1	1.2	1.8
130.0	4.9	1.6	1.2	2.3	2.0	0.7	1.0	2.1
135.0	3.7	0.9	0.6	1.9	1.8	0.7	0.7	2.1
140.0	3.2	0.8	0.6	1.9	0.8	0.1	0.8	1.4
145.0	4.0	1.4	0.8	1.9	0.8	0.0	0.5	1.5
150.0	3.8	1.2	0.9	1.8	1.1	0.0	1.0	1.8
155.0	2.9	0.6	0.4	0.8	0.3	-0.7	0.2	1.2
160.0	3.7	1.3	1.4	2.4	0.4	-0.3	1.4	2.1
165.0	3.7	0.8	1.4	2.7	0.4	-0.7	0.8	2.0
170.0	2.6	0.0	0.1	0.6	0.0	-1.1	-0.1	0.9
175.0	1.8	-0.4	-0.1	1.1	-0.2	-1.1	-0.4	0.6
180.0	2.7	0.2	0.4	1.6	-0.2	-1.1	-0.1	1.1
185.0	2.6	-0.3	0.3	1.1	-0.1	-1.3	-0.3	0.5
190.0	3.1	-0.2	0.3	1.8	0.0	-1.1	0.0	0.4
195.0	3.2	-0.4	0.5	2.1	-0.1	-1.1	0.2	0.6
200.0	2.4	-0.2	0.1	0.7	-0.5	-1.6	-0.9	0.3
205.0	3.4	0.3	0.3	1.9	0.3	-0.7	0.2	1.1
210.0	2.4	-1.1	-0.1	0.9	-0.7	-1.3	-0.6	0.2
215.0	2.2	-1.2	-0.2	0.8	-0.8	-1.8	-0.9	-0.4
220.0	3.2	-0.4	-0.3	0.4	-0.3	-1.4	-0.8	-0.3
225.0	4.3	-0.9	-0.4	0.7	-0.5	-1.3	-1.2	-0.3
230.0	4.1	-1.3	-0.4	0.4	-1.0	-1.3	-0.9	-0.9
235.0	3.8	-1.2	-0.8	0.6	-1.3	-0.4	-1.2	-0.4
240.0	3.8	-1.1	-1.1	-0.1	-1.3	-0.8	-1.1	-0.7
245.0	4.1	-1.3	-1.4	0.0	-1.2	-0.9	-1.0	0.1
250.0	5.0	-0.3	-1.4	0.4	-0.9	-0.1	-0.8	0.0
255.0	5.3	-0.2	-0.4	1.1	-0.6	-0.2	-0.9	0.3
260.0	5.7	-0.2	-1.8	-0.1	-0.4	-0.2	-1.2	0.1
265.0	5.7	-0.3	-1.3	-0.4	-0.1	-0.2	-1.3	0.0
270.0	6.6	0.7	-1.3	-0.4	0.5	-0.3	-1.2	0.1
275.0	6.7	0.7	-0.7	0.4	0.8	-0.4	-0.7	0.5
280.0	6.8	0.8	-0.1	0.2	0.7	-0.4	-0.4	0.4
285.0	6.6	0.5	-0.3	-0.8	0.1	-0.6	-0.8	0.0
290.0	6.8	0.5	-0.6	-0.6	0.0	-0.3	-0.9	-0.1

AFSS RUN #10 DAY 2154

Test Time (min)	Temperature at SOFI Depth: 16.7mm (.66in)	14.0mm (.55in)	32.5mm (1.28in)
0.0	15.4 C	15.3 C	15.3 C
5.0	12.8	12.2	15.1
10.0	5.3	4.9	13.9
15.0	-3.2	-5.6	11.7
20.0	-2.9	-6.8	8.8
25.0	-4.7	-6.8	6.2
30.0	-4.3	-7.3	5.3
35.0	-4.3	-6.5	5.5
40.0	-4.4	-8.7	5.6
45.0	-5.1	-9.3	5.0
50.0	-4.7	-10.0	5.0
55.0	-4.7	-10.4	5.2
60.0	-5.6	-10.8	4.8
65.0	-4.9	-11.6	5.2
70.0	-6.4	-10.8	4.1
75.0	-7.0	-11.6	4.8
80.0	-5.2	-12.3	5.3
85.0	-6.4	-11.6	4.8
90.0	-7.3	-12.2	4.4
95.0	-7.9	-10.0	3.8
100.0	-6.1	-12.8	5.2
105.0	-7.9	-11.9	3.9
110.0	-8.2	-14.1	3.7
115.0	-8.0	-14.3	3.9
120.0	-8.2	-14.6	4.1
125.0	-8.6	-14.5	4.1
130.0	-8.4	-15.1	3.9
135.0	-2.9	-15.1	3.7
140.0	-6.4	-14.3	4.4
145.0	-7.0	-16.4	3.9
150.0	-6.4	-17.2	3.9
155.0	-0.6	-17.6	2.8
160.0	-2.9	-17.8	4.4
165.0	-4.5	-17.9	4.2
170.0	-6.7	-18.2	2.5
175.0	-5.0	-18.8	2.5
180.0	-1.1	-16.7	2.7
185.0	-1.2	-18.9	2.4
190.0	-3.3	-19.7	3.2
195.0	-2.6	-19.9	2.8
200.0	-5.3	-19.2	2.2
205.0	-4.4	-20.2	2.8
210.0	-1.2	-20.4	1.7
215.0	-5.3	-21.0	1.2
220.0	-2.4	-21.3	1.3
225.0	-5.6	-21.4	1.4
230.0	-4.4	-21.6	0.6
235.0	-1.9	-21.3	1.1
240.0	-6.4	-22.3	1.3
245.0	-6.9	-22.2	1.4
250.0	-6.4	-22.6	2.2
255.0	-6.2	-22.5	2.0
260.0	-7.1	-17.5	1.4
265.0	-7.4	-19.3	1.4
270.0	-7.6	-21.8	1.7
275.0	-6.4	-21.9	2.8
280.0	-6.6	-22.6	1.9
285.0	-7.7	-23.2	1.3
290.0	-7.9	-23.2	1.3

AFSS RUN # 10 DAY 2154

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel		SOFI Panel Pyrometer Data	
Thermocouple	Pyrometer	Left	Right
TOP 16.7	14.4	14.4	14.4
16.5	14.2	14.4	14.3
16.1	13.8	14.4	14.1
15.7	13.8	13.8	13.6
15.6	13.8	13.3	14.1
15.4	13.9	13.3	13.8
15.3	13.3	13.8	12.8
15.3	13.3	12.7	13.3
15.2	12.7	12.7	12.7
15.1	12.7	10.1	11.3

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel		SOFI Panel Pyrometer Data	
Thermocouple	Pyrometer	Left	Right
TOP 16.3	15.2	13.8	13.8
16.1	14.4	13.8	13.6
15.7	14.4	13.3	12.6
15.5	14.4	11.7	11.3
15.4	13.8	11.1	11.1
15.3	13.8	9.4	9.8
15.2	14.0	[illegible].3	9.7
15.1	13.7	5.5	7.2
15.0	14.0	1.6	2.8
14.9	13.3	2.7	2.8

AFSS RUN # 10 DAY 2154

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	15.8	13.8	-2.7	-2.4
	15.7	14.4	0.1	0.0
	15.4	13.8	-3.8	-3.3
	15.1	14.2	-5.5	-3.3
	15.1	14.4	-5.0	-5.2
	15.0	14.2	-3.8	-4.5
	14.9	13.8	-3.2	-3.8
	14.8	13.5	-3.5	-3.8
	14.8	13.8	-1.9	-2.2
	14.7	13.6	-0.5	-1.4

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	15.2	14.4	5.6	2.7
	15.1	14.6	5.5	0.7
	14.9	14.4	5.5	0.0
	14.7	14.4	5.0	0.5
	14.7	13.8	1.6	0.8
	14.6	13.8	1.6	1.6
	14.6	14.0	2.7	1.6
	14.5	13.8	-0.3	1.5
	14.4	13.8	0.2	2.5
	14.3	13.8	0.5	1.7

AFSS RUN # 10 DAY 2154

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 14.6	13.6	-11.1	-9.4
14.5	13.6	-6.1	-4.4
14.4	13.3	-5.4	-2.3
14.3	13.3	-5.5	-4.4
14.2	13.3	-6.2	-5.5
14.2	13.3	-5.5	-3.8
14.1	13.3	-4.4	-4.4
14.1	13.3	-5.5	-6.1
14.1	13.3	-4.4	-4.4
13.9	13.3	-1.7	-1.2

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 14.1	13.3	1.1	2.2
14.0	13.3	0.0	1.6
13.9	13.3	0.5	1.6
13.8	13.3	-0.5	1.1
13.8	13.3	0.0	1.6
13.7	13.3	-0.7	1.0
13.7	13.3	0.5	1.8
13.7	13.8	0.5	1.6
13.6	13.8	-0.5	0.5
13.5	13.3	0.5	2.2

AFSS RUN # 10 DAY 2154

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel | SOFI Panel Pyrometer Data

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Left	SOFI Panel Right
TOP 13.8	12.7	-13.5	-9.6
13.7	13.3	-5.0	-3.8
13.6	12.7	-4.4	-5.0
13.6	13.3	-5.4	-5.0
13.6	12.7	-5.0	-4.9
13.6	13.3	-4.8	-4.0
13.6	13.0	-3.6	-4.3
13.7	13.3	-4.4	-4.1
13.7	13.3	-3.8	-3.3
13.6	13.3	-2.8	-1.5

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel | SOFI Panel Pyrometer Data

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Left	SOFI Panel Right
TOP 13.7	13.3	0.3	1.6
13.6	13.3	-1.8	0.0
13.5	13.6	-1.1	1.1
13.4	12.7	-1.1	0.0
13.4	13.3	0.0	0.3
13.4	12.7	-1.1	0.0
13.4	12.7	0.8	1.6
13.5	13.3	0.0	2.2
13.5	13.1	-1.2	-0.1
13.4	13.3	-0.5	1.1

AFSS RUN # 10 DAY 2154

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 13.6	12.7	-9.0	-6.3
13.6	12.7	-3.3	-2.2
13.5	12.7	-3.3	-1.6
13.4	12.7	-2.2	-2.2
13.4	13.0	-6.1	-3.3
13.3	13.3	-5.5	-4.4
13.3	12.7	-5.0	-6.1
13.3	13.2	-6.1	-6.2
13.3	13.2	-6.1	-5.2
13.2	12.7	-5.5	-5.5

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 13.5	13.3	2.7	4.2
13.4	12.7	1.6	2.2
13.4	14.0	2.6	3.3
13.4	13.3	3.3	3.3
13.3	13.3	2.2	3.3
13.2	12.7	1.6	3.3
13.2	12.8	1.6	3.6
13.2	13.3	2.7	2.2
13.1	12.7	1.6	2.2
13.1	13.9	1.1	1.7

AFSS RUN # 10 DAY 2154

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	13.1	12.2	-7.2	-7.7
	13.1	12.2	-7.0	-5.5
	13.1	12.7	-8.6	-6.1
	13.1	12.6	-6.3	-5.5
	13.0	12.7	-7.1	-6.6
	12.9	12.0	-9.2	-7.7
	12.9	12.2	-7.5	-7.1
	12.9	11.7	-8.1	-6.0
	12.8	11.9	-6.1	-5.2
	12.7	12.2	-5.5	-4.6

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	12.6	12.2	0.0	1.6
	12.7	12.7	0.0	0.0
	12.7	12.2	0.5	0.5
	12.7	12.5	4.0	0.5
	12.6	11.6	-0.5	-0.5
	12.6	11.8	-2.2	-0.5
	12.5	12.0	-2.2	-0.5
	12.6	11.9	-2.2	-0.6
	12.6	12.0	-2.2	-0.8
	12.4	11.6	-1.6	-1.6

AFSS RUN # 10 DAY 2154

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	12.4	11.3	-12.5	-11.7
	12.4	12.0	-7.7	-4.7
	12.4	11.4	-9.4	-8.5
	12.3	12.0	-6.6	-6.5
	12.3	11.8	-6.6	-8.0
	12.2	12.1	-8.2	-6.8
	12.1	12.1	-6.1	-5.0
	12.1	11.5	-7.5	-8.0
	12.1	11.3	-7.8	-4.9
	12.0	11.3	-5.7	-5.5

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	12.1	11.5	0.5	0.0
	12.1	11.6	0.0	0.0
	12.1	12.3	0.0	-0.8
	12.1	11.6	0.5	0.0
	12.0	11.5	0.6	0.1
	11.9	11.6	-0.5	0.0
	11.9	11.6	0.0	1.8
	11.9	12.2	0.3	0.2
	11.9	11.5	0.3	1.1
	11.8	11.1	2.0	1.8

AFSS RUN # 10 DAY 2154

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.8	11.1	-11.1	-9.2
	11.9	11.5	-6.1	-6.6
	11.9	11.1	-8.2	-8.3
	11.8	11.3	-8.2	-8.8
	11.8	11.1	-8.1	-7.7
	11.7	11.1	-10.1	-9.3
	11.6	11.1	-6.6	-7.7
	11.6	11.1	-3.6	-5.5
	11.6	11.6	-5.5	-7.7
	11.4	11.6	-8.3	-9.4

TEST TIME 225.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.7	11.6	0.6	-0.5
	11.7	11.6	0.5	0.3
	11.7	11.6	0.5	0.5
	11.7	11.6	0.8	-0.1
	11.6	11.1	-1.6	-1.5
	11.5	11.1	-2.2	-0.5
	11.4	11.1	-1.6	0.5
	11.3	11.1	-1.6	-0.8
	11.3	11.1	-1.7	-1.6
	11.2	11.1	-2.5	-1.6

AFSS RUN # 10 DAY 2154

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SCFI Panel Pyrometer Data Left	SCFI Panel Pyrometer Data Right
TOP	11.5	11.1	-14.4	-10.5
	11.5	11.1	-3.3	-3.1
	11.5	10.8	-9.0	-8.8
	11.4	11.1	-8.3	-9.1
	11.3	11.1	-9.4	-7.8
	11.2	10.8	-9.5	-8.3
	11.1	10.7	-7.7	-7.2
	11.0	11.2	-9.4	-9.4
	10.9	10.5	-7.7	-7.7
	10.8	10.5	-5.5	-7.7

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SCFI Panel Pyrometer Data Left	SCFI Panel Pyrometer Data Right
TOP	11.4	11.3	2.3	1.3
	11.4	11.3	4.3	0.5
	11.4	11.3	2.1	0.5
	11.3	11.6	2.7	0.3
	11.2	11.6	1.3	0.5
	11.1	11.6	-1.0	0.5
	11.0	11.6	0.0	1.3
	11.1	12.2	-1.1	0.5
	11.2	12.2	-0.5	-0.5
	11.1	11.7	0.0	0.0

AFSS RUN # 10 DAY 2154

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel			SCFI Panel Pyrometer Data	
	Thermocouple	Pyrometer	Left	Right
TOP	11.4	11.1	-7.1	-7.7
	11.4	11.1	-2.7	-3.6
	11.4	12.0	-6.1	-5.8
	11.4	11.6	-4.4	-5.5
	11.3	12.0	-6.1	-7.2
	11.2	12.0	-4.5	-6.5
	11.0	11.6	-3.3	-2.6
	11.0	11.1	-2.7	-3.8
	11.0	11.3	-5.0	-3.3
	10.9	11.6	-2.7	-3.8

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel			SCFI Panel Pyrometer Data	
	Thermocouple	Pyrometer	Left	Right
TOP	11.4	12.2	2.7	1.1
	11.6	12.2	3.6	1.6
	11.5	12.5	2.7	1.6
	11.4	12.7	2.7	0.5
	11.3	12.2	1.6	1.6
	11.2	11.9	0.5	2.7
	11.0	11.1	0.5	2.5
	10.9	12.2	0.5	1.1
	10.9	11.2	1.6	2.2
	10.8	13.3	2.2	1.6

AFSS RUN #11 DAY 2162

Test Time (min)	4 Meter Dewcel Dew point	4 Meter Dewcel Temp	1 Meter Dewcel Dew point	1 Meter Dewcel Temp	Radiometers w/cm. West	Radiometers w/cm. East
0.0	13.6 C	14.9 C	13.7 C	13.8 C	0.460	0.230
5.0	12.7	15.1	14.1	14.2	0.460	0.460
10.0	13.9	15.4	14.3	14.6	0.790	0.920
15.0	14.0	15.5	14.4	14.8	1.149	2.069
20.0	14.8	15.2	14.3	14.9	2.069	3.448
25.0	14.6	15.0	14.2	14.8	3.908	7.126
30.0	14.2	14.9	13.9	14.7	5.747	7.816
35.0	14.4	15.0	13.9	14.7	5.747	8.046
40.0	14.1	15.4	13.7	14.8	6.207	8.046
45.0	13.4	16.8	13.3	15.0	5.977	8.276
50.0	13.4	17.8	13.3	15.2	6.207	8.276
55.0	14.1	17.5	13.6	15.5	6.207	7.816
60.0	14.6	17.0	13.9	15.9	5.977	8.046
65.0	14.6	18.5	14.2	16.3	6.207	7.816
70.0	15.1	18.0	14.0	16.9	5.977	7.816
75.0	15.3	17.5	14.4	16.4	5.977	8.046
80.0	13.2	18.8	14.2	16.6	5.977	7.586
85.0	16.1	18.5	15.6	16.4	5.747	7.586
90.0	16.3	19.1	16.0	16.7	5.057	7.126
95.0	17.8	18.1	16.7	16.9	5.517	6.897
100.0	18.2	18.3	17.2	17.2	5.287	7.356
105.0	18.1	18.6	17.6	17.6	5.287	7.126
110.0	18.3	18.5	17.6	17.7	5.517	6.897
115.0	18.2	19.2	17.9	17.9	5.517	7.126
120.0	17.8	19.6	17.9	17.9	5.977	7.126
125.0	18.5	20.3	18.2	18.2	4.368	6.897
130.0	17.9	20.4	18.2	18.3	5.747	6.897
135.0	18.6	20.3	17.8	18.2	5.977	7.126
140.0	17.7	21.1	18.0	18.4	5.977	7.126
145.0	17.3	21.7	17.9	18.6	5.977	7.356
150.0	18.0	21.5	17.8	18.8	5.977	7.356
155.0	17.6	21.9	17.7	19.2	6.207	7.586
160.0	17.2	22.2	17.6	19.3	6.437	7.586
165.0	17.1	22.4	17.5	19.3	6.437	7.586
170.0	17.0	22.4	17.6	19.6	6.207	7.126
175.0	17.0	22.3	17.8	19.4	5.977	7.586
180.0	16.3	22.8	17.4	19.7	5.977	7.356
185.0	15.1	23.1	17.1	19.9	5.747	7.816
190.0	16.2	22.8	17.1	20.0	5.287	7.586
195.0	15.7	23.1	17.3	19.9	6.207	7.586
200.0	15.9	23.1	17.0	19.9	5.977	7.356
270.0	16.0	24.8	17.9	19.9	6.437	7.126
275.0	15.4	24.8	18.0	19.8	6.207	7.586
280.0	15.1	24.6	18.0	19.8	6.207	7.126
285.0	16.8	23.5	18.6	19.5	5.747	6.667
290.0	16.5	23.2	18.7	19.4	5.517	6.897
295.0	18.2	21.8	18.8	19.2	5.517	6.667

AFSS RUN #11 DAY 2162

Test Time	Ceiling		Floor		Plastic Walls			
(min)	East	West	East	West	N	S	E	W
0.0	47.40	25.10	13.90	14.00	15.20	15.40	16.10	15.30
5.0	45.8	25.4	13.9	14.0	15.3	15.7	16.4	15.5
10.0	42.7	26.1	14.1	14.1	15.7	16.1	16.6	15.8
15.0	39.4	25.1	14.1	14.1	15.8	16.3	16.7	16.0
20.0	34.7	24.1	14.1	14.1	15.8	16.2	16.7	15.9
25.0	43.9	24.1	14.1	14.1	15.7	16.1	16.8	15.8
30.0	39.6	25.6	14.1	14.1	15.7	16.1	16.9	15.9
35.0	52.7	26.7	14.1	14.1	15.8	16.2	17.1	15.9
40.0	53.8	28.7	14.1	14.2	15.9	16.4	17.1	16.1
45.0	54.4	30.1	14.1	14.2	16.1	16.7	17.3	16.3
50.0	52.2	30.0	14.2	14.2	16.4	16.9	17.5	16.6
55.0	52.7	23.2	14.2	14.2	16.3	16.9	17.3	16.4
60.0	57.2	25.0	14.2	14.3	16.6	17.2	17.4	16.7
65.0	49.2	24.3	14.3	14.3	16.8	17.4	17.7	17.0
70.0	54.1	25.5	14.3	14.3	17.3	17.6	17.9	17.3
75.0	48.2	27.2	14.6	14.3	16.5	17.5	17.7	17.1
80.0	53.3	25.0	14.6	14.3	16.4	17.3	16.2	16.9
85.0	44.2	24.7	14.6	14.3	16.9	17.6	16.9	17.2
90.0	56.9	23.4	14.8	14.4	17.1	17.8	17.1	17.5
95.0	57.8	25.4	14.8	14.4	17.6	18.2	17.6	17.8
100.0	58.5	27.0	14.8	14.4	17.9	18.6	18.1	18.1
105.0	54.2	27.9	14.9	14.5	18.2	18.8	18.4	18.4
110.0	56.7	29.3	15.1	14.5	18.4	19.0	18.6	18.6
115.0	59.1	30.7	15.2	14.6	18.6	19.2	18.8	18.8
120.0	51.7	31.2	15.2	14.6	18.7	19.4	18.9	18.9
125.0	57.8	31.1	15.3	14.7	18.7	19.4	19.0	19.1
130.0	57.3	32.2	15.4	14.7	18.9	19.7	19.1	19.3
135.0	60.2	32.9	15.4	14.7	19.0	19.8	19.2	19.4
140.0	58.2	33.6	15.5	14.8	19.2	20.0	19.4	19.4
145.0	58.6	34.1	15.6	14.8	19.3	20.1	19.4	19.6
150.0	58.0	34.2	15.7	14.8	19.4	20.2	19.4	19.8
155.0	61.4	35.1	15.7	14.9	19.6	20.4	19.6	19.9
160.0	58.3	36.3	15.8	14.9	19.7	20.5	19.7	20.1
165.0	53.4	35.1	15.8	15.0	19.8	20.5	19.7	20.1
170.0	52.9	34.4	15.9	15.0	19.8	20.4	19.7	20.1
175.0	51.3	34.5	15.9	15.1	19.9	20.4	19.4	20.2
180.0	50.1	33.2	15.9	15.1	19.9	20.4	19.6	19.9
185.0	52.9	33.7	16.0	15.2	20.0	20.6	19.7	20.1
190.0	56.8	34.1	16.1	15.2	20.0	20.6	19.7	20.2
195.0	51.0	33.9	16.1	15.4	20.1	20.6	19.6	20.2
200.0	46.1	33.3	16.1	15.4	20.1	20.6	19.4	20.2
270.0	56.4	32.1	16.7	16.1	21.2	21.0	20.5	21.0
275.0	45.4	31.3	16.8	16.1	21.2	21.1	20.4	21.0
280.0	37.9	29.4	17.0	16.1	20.8	20.9	19.9	20.8
285.0	33.1	24.4	16.9	16.1	20.5	20.3	19.7	20.4
290.0	32.3	23.2	16.9	16.1	20.4	20.1	19.6	20.3
295.0	32.4	23.6	16.9	16.1	20.3	19.9	19.4	20.2

AFSS RUN #11 DAY 2162

Test Time	Thermocouple Readout by Position SIDE A							
(min)	1	2	3	4	5	6	7	8
0.0	16.6	15.8	15.7	15.3	16.9	15.9	15.4	15.3
5.0	16.9	15.9	15.5	15.2	17.3	16.2	15.6	15.1
10.0	16.5	15.1	12.5	10.6	17.1	15.3	14.4	10.2
15.0	15.1	12.9	8.0	1.4	15.8	12.9	11.2	3.2
20.0	13.1	9.9	0.3	0.9	14.0	9.4	5.8	2.6
25.0	9.5	4.0	-1.3	1.2	11.1	1.7	3.8	2.7
30.0	2.4	-1.2	-1.6	0.9	5.6	-2.3	3.2	2.1
35.0	-0.6	-1.3	-1.1	0.1	2.0	-2.0	3.3	2.0
40.0	-0.9	-1.2	-0.7	0.4	2.1	-1.8	3.3	2.5
45.0	-1.1	-1.3	-0.9	0.1	2.6	-2.0	3.3	2.4
50.0	-0.4	-0.9	-0.5	0.9	2.5	-1.6	3.7	3.2
55.0	0.0	-1.0	-0.9	0.3	2.9	-1.2	3.5	2.7
60.0	0.4	-0.2	-0.6	0.9	3.3	-1.2	3.8	2.9
65.0	0.7	-0.2	-0.2	0.9	3.6	-0.6	4.0	2.6
70.0	0.2	-0.2	-0.1	1.3	2.9	-1.0	3.9	2.8
75.0	-0.3	-1.2	-0.3	0.7	3.2	-0.6	4.2	2.6
80.0	-0.1	-0.9	-0.5	0.9	3.3	-0.1	4.1	3.3
85.0	1.3	-0.2	0.3	1.4	3.9	-0.2	5.1	3.9
90.0	1.2	0.0	0.4	1.7	5.3	0.4	5.1	4.0
95.0	2.7	1.1	0.9	2.3	5.2	0.9	5.4	3.9
100.0	2.8	1.3	1.6	2.6	5.7	1.3	5.6	4.6
105.0	2.8	1.3	1.6	2.9	5.6	1.5	6.1	4.7
110.0	2.0	1.7	1.9	3.0	5.3	1.4	6.2	4.6
115.0	2.8	2.1	1.9	3.1	5.8	1.6	6.7	4.9
120.0	2.8	2.2	1.5	2.8	5.9	1.5	6.4	4.8
125.0	3.8	2.9	1.7	3.1	6.8	2.2	6.9	5.2
130.0	3.9	3.2	2.2	3.2	6.4	2.5	6.8	5.4
135.0	2.9	2.4	2.1	3.1	6.3	2.2	6.5	4.9
140.0	2.8	2.9	2.3	3.3	6.2	2.6	6.6	5.2
145.0	2.8	2.8	2.4	3.4	6.5	2.4	6.6	5.2
150.0	3.3	2.8	2.4	3.2	6.9	2.8	6.8	5.3
155.0	2.6	2.3	2.5	3.4	6.8	2.0	6.6	5.2
160.0	3.1	2.7	2.4	3.2	6.5	2.3	6.7	5.2
165.0	3.6	2.9	2.5	3.4	6.8	2.4	6.8	5.4
170.0	3.6	3.5	2.6	3.4	6.7	2.2	6.9	5.3
175.0	3.1	2.9	2.4	3.7	7.1	2.1	6.7	5.4
180.0	3.0	3.3	2.9	4.0	6.6	1.9	6.6	5.3
185.0	3.3	3.2	3.1	3.9	6.9	2.4	6.9	5.2
190.0	3.2	3.6	3.2	3.8	7.2	3.2	7.2	5.3
195.0	3.3	3.6	2.9	4.1	7.2	2.9	7.3	5.6
200.0	3.7	3.8	3.2	4.1	7.1	2.8	6.9	5.1
270.0	4.2	3.3	3.4	5.8	8.4	5.0	9.8	7.9
275.0	4.5	2.9	3.4	5.3	8.7	4.7	9.3	7.8
280.0	4.5	3.0	3.5	5.7	8.6	4.3	9.4	7.7
285.0	3.7	2.8	3.2	5.1	7.8	4.9	9.2	7.4
290.0	3.9	2.7	3.4	5.3	7.8	4.2	9.0	7.1
295.0	3.1	2.3	3.0	4.8	7.3	4.5	8.9	7.1

AFSS RUN #11 DAY 2162

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	17.0	15.8	15.1	14.8	16.9	15.8	15.2	14.9
5.0	17.3	15.9	15.2	14.7	17.3	16.0	15.3	14.9
10.0	17.3	15.4	14.0	11.8	17.3	15.6	14.2	12.6
15.0	16.5	13.7	11.1	6.1	16.6	14.4	11.8	7.2
20.0	15.0	10.8	6.3	4.8	15.2	12.3	7.7	4.9
25.0	13.0	5.6	4.3	4.2	13.2	8.7	4.5	4.2
30.0	8.7	1.9	3.6	4.4	9.8	3.6	3.6	4.1
35.0	5.6	1.8	3.7	5.2	4.9	2.2	3.3	4.3
40.0	5.3	2.1	3.7	5.2	3.8	2.0	3.9	4.8
45.0	5.5	2.2	4.4	4.5	3.8	2.4	4.1	4.4
50.0	5.8	2.1	4.2	5.2	4.1	2.4	3.9	4.5
55.0	5.9	2.1	4.3	5.1	4.1	2.4	4.2	5.2
60.0	6.7	2.6	4.2	4.8	5.0	2.9	4.4	4.8
65.0	7.3	3.1	4.4	5.4	5.2	3.2	4.2	4.9
70.0	6.8	3.3	4.8	5.5	5.3	4.1	4.9	5.4
75.0	6.7	2.9	4.4	5.8	4.8	3.3	4.3	5.4
80.0	6.0	2.9	4.8	5.2	4.6	3.3	4.9	5.4
85.0	7.8	3.4	5.2	5.9	6.4	4.1	5.8	6.2
90.0	7.2	4.0	5.8	6.5	5.9	4.7	6.1	6.7
95.0	8.2	4.7	6.2	6.6	6.8	4.9	6.1	6.6
100.0	8.7	5.4	6.4	7.3	7.0	5.8	6.7	7.1
105.0	8.8	5.9	7.1	7.6	7.2	5.9	7.2	7.5
110.0	8.6	5.6	6.9	8.1	7.2	5.7	7.1	7.7
115.0	9.0	6.2	7.6	8.2	7.2	6.4	8.0	8.3
120.0	9.0	6.0	7.3	8.6	7.3	5.8	7.2	7.9
125.0	12.0	6.3	7.0	9.6	7.9	7.1	7.4	7.8
130.0	9.1	6.7	8.0	8.8	7.4	6.3	7.5	8.1
135.0	8.9	6.0	7.6	8.2	7.3	6.1	8.0	8.3
140.0	9.2	6.2	7.8	8.4	7.7	6.1	8.7	8.9
145.0	9.1	6.3	7.8	8.6	7.4	6.3	7.6	8.6
150.0	9.3	6.6	7.7	8.5	7.7	6.3	7.1	8.2
155.0	9.3	6.0	7.9	8.6	7.4	6.2	7.7	8.2
160.0	9.4	6.0	7.4	8.6	7.6	6.2	7.4	8.0
165.0	9.4	5.9	6.8	8.2	7.5	6.1	7.3	7.8
170.0	9.5	6.4	7.5	8.7	7.6	6.3	7.6	8.5
175.0	9.5	6.2	7.8	8.9	7.6	6.3	8.9	9.2
180.0	9.3	6.1	9.4	9.8	7.5	6.6	9.2	9.8
185.0	9.4	6.1	8.3	9.0	7.7	6.6	8.7	9.2
190.0	9.9	5.9	8.7	9.6	9.8	6.5	9.4	10.3
195.0	9.7	6.2	8.7	9.1	8.3	6.5	9.3	9.7
200.0	9.3	5.7	8.1	9.1	8.0	6.3	9.1	9.4
270.0	10.4	6.8	7.4	9.2	9.0	7.2	8.3	9.0
275.0	10.7	6.8	7.0	8.0	9.2	7.3	8.0	8.6
280.0	10.0	6.6	7.4	8.4	8.7	7.1	7.9	8.6
285.0	9.2	6.4	7.0	8.1	8.1	6.8	7.8	8.6
290.0	9.5	6.3	7.2	8.1	7.9	6.6	7.6	8.4
295.0	8.1	6.2	7.3	8.2	7.4	6.7	7.8	8.5

AFSS RUN #11 DAY 2162

Test Time (min)	Temperature at SOFI Depth: 16.7mm (.66in)	14.0mm (.55in)	32.5mm (1.28in)
0.0	14.3 C	14.9 C	14.3 C
5.0	12.1	12.1	14.4
10.0	2.8	4.4	13.8
15.0	-3.7	-5.9	11.8
20.0	-4.6	-7.0	8.3
25.0	-5.4	-5.6	6.3
30.0	-4.6	-6.8	5.5
35.0	-2.9	-7.0	6.1
40.0	-3.8	-7.0	5.8
45.0	-4.0	-7.5	5.4
50.0	-3.8	-6.5	6.2
55.0	-4.2	-7.4	5.6
60.0	-4.2	-6.4	6.4
65.0	-3.9	-6.7	6.4
70.0	-3.6	-6.8	7.0
75.0	-3.9	-7.5	6.3
80.0	-3.8	-6.7	6.6
85.0	-3.4	-6.6	7.9
90.0	-2.4	-6.4	7.3
95.0	-2.6	-5.1	8.4
100.0	-1.8	-2.4	9.1
105.0	-2.1	-3.8	8.9
110.0	-1.0	-3.9	9.6
115.0	-1.2	-3.1	9.6
120.0	-1.3	-2.4	9.1
125.0	-1.4	-2.8	9.3
130.0	-1.3	-3.1	10.3
135.0	-1.3	-3.5	9.5
140.0	-1.1	-3.4	9.7
145.0	-0.9	-3.1	10.1
150.0	-1.0	-2.8	9.5
155.0	-1.2	-3.3	9.8
160.0	-1.5	-3.1	9.3
165.0	-1.3	-2.9	10.1
170.0	-1.3	-2.8	9.4
175.0	-1.2	-2.9	10.9
180.0	-0.4	-2.7	11.3
185.0	-1.1	-2.4	9.7
190.0	0.9	-2.8	11.2
195.0	0.0	-2.8	11.1
200.0	-0.1	-2.6	10.3
270.0	0.3	-2.3	9.5
275.0	0.6	-2.3	10.7
280.0	0.3	-2.3	9.6
285.0	0.0	-2.3	9.7
290.0	-0.1	-2.3	9.4
295.0	0.3	-2.4	9.6

AFSS RUN # 11 DAY 2162

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 16.9	18.3	18.6	18.5
	17.8	18.3	18.3
	17.7	18.3	18.2
	17.7	17.7	17.7
	16.8	17.7	17.7
	16.5	17.7	17.7
	16.1	16.6	17.7
	16.2	16.6	16.6
	16.1	16.4	16.6
	16.1	15.5	16.1

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 18.0	19.4	17.7	18.3
	18.8	17.2	17.7
	18.6	16.8	17.2
	18.3	15.5	15.5
	18.0	14.4	15.5
	18.3	13.8	13.8
	17.7	12.2	12.7
	17.2	8.6	8.5
	16.9	4.3	5.6
	16.6	4.5	4.5

AFSS RUN # 11 DAY 2162

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 18.1	18.8	-6.7	-6.5
	18.8	-1.1	0.0
	18.8	-1.5	-1.0
	18.6	-2.1	-1.1
	17.7	-2.2	-2.7
	17.6	-1.5	-2.7
	17.7	-0.4	-1.1
	17.6	-1.6	-2.2
	17.2	-2.1	-1.1
	16.6	-1.3	-1.8

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 18.7	20.5	6.6	6.1
	20.0	5.0	4.4
	19.5	4.4	5.5
	18.8	3.8	4.4
	18.8	3.8	4.1
	18.3	4.1	3.9
	18.3	5.5	4.4
	17.4	3.8	2.7
	17.5	2.7	3.3
	17.2	3.8	5.0

AFSS RUN # 11 DAY 2162

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel — SOFI Panel Pyrometer Data

Thermocouple	Pyrometer	Left	Right
TOP 19.3	20.7	-4.3	-3.8
	20.5	0.4	1.1
	20.3	1.5	0.5
	19.4	0.0	-0.3
	18.8	0.2	-1.3
	18.3	-0.5	-1.1
	18.3	0.0	-0.7
	17.8	-1.6	-1.6
	17.7	-0.9	-0.5
	17.1	-0.5	-0.5

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel — SOFI Panel Pyrometer Data

Thermocouple	Pyrometer	Left	Right
TOP 19.8	21.1	6.6	7.2
	20.5	4.4	5.5
	20.0	4.4	4.4
	20.0	4.1	4.1
	19.4	4.4	5.0
	18.6	3.3	4.7
	18.2	4.4	5.5
	17.7	3.8	5.0
	17.7	2.7	4.0
	17.3	2.8	5.2

AFSS RUN # 11 DAY 2162

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 20.0	21.1	-1.1	0.2
	21.0	2.1	1.8
	20.5	2.8	1.6
	20.0	2.2	1.6
	19.1	1.3	0.0
	18.8	1.6	2.0
	19.0	2.0	0.8
	18.7	1.0	0.5
	18.3	0.0	1.1
	17.9	1.3	0.5

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 20.7	22.2	9.2	10.0
	21.7	7.2	7.7
	21.6	8.3	8.3
	20.5	7.2	8.3
	20.5	8.3	8.2
	20.5	7.2	7.2
	19.7	7.8	8.2
	19.4	7.2	7.2
	19.0	6.8	7.2
	18.8	6.6	7.7

AFSS RUN # 11 DAY 2162

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 21.5	23.1	0.6	99.9
	23.2	5.0	99.9
	22.7	3.3	99.9
	21.1	3.3	99.9
	20.5	3.3	99.9
	20.5	3.3	99.9
	20.1	1.9	99.9
	20.0	2.2	99.9
	18.8	1.6	99.9
	18.8	2.7	99.9

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 22.1	23.8	8.3	9.7
	23.8	8.3	9.4
	22.8	8.8	8.3
	22.6	8.3	8.6
	21.6	7.7	9.4
	21.1	8.3	8.3
	20.5	8.3	9.4
	20.5	7.8	7.7
	19.5	7.7	7.2
	19.4	7.2	8.3

AFSS RUN # 11 DAY 2162

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 22.7	24.7	2.2	99.9
	24.4	5.2	99.9
	22.6	5.5	99.9
	22.2	5.1	99.9
	22.0	3.8	99.9
	21.6	4.4	99.9
	21.1	2.8	99.9
	21.1	3.3	99.9
	20.5	2.7	99.9
	20.0	3.3	99.9

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP 23.3	25.5	9.4	10.0
	24.4	8.3	8.3
	23.5	7.7	8.3
	22.7	7.7	8.1
	22.7	8.7	8.1
	21.2	8.2	7.9
	21.1	8.5	8.3
	20.5	8.3	7.2
	20.0	7.2	7.2
	20.0	7.7	8.3

AFSS RUN # 11 DAY 2162

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 23.5	24.9	-0.3	0.2
22.8	24.6	4.2	1.6
22.1	22.9	4.4	2.7
21.4	22.2	4.8	2.7
20.9	22.2	2.7	99.9
20.4	21.2	4.4	99.9
20.1	21.1	4.4	99.9
19.7	20.1	2.8	99.9
19.4	20.0	1.1	99.9
19.1	19.4	3.8	99.9

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 23.8	25.0	9.5	10.5
23.1	25.0	7.7	8.3
22.3	24.4	8.1	8.0
21.6	22.7	8.3	8.3
21.1	22.7	8.3	10.0
20.6	22.1	8.0	7.7
20.2	21.1	9.4	7.7
19.7	20.5	7.7	8.3
19.4	19.8	7.7	8.3
19.1	19.8	7.7	8.3

AFSS RUN # 11 DAY 2162

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	23.1	3.5	2.7
	23.6	2.8	4.4
	22.2	3.3	4.4
	21.2	3.8	6.1
	21.1	2.6	99.9
	21.1	4.4	99.9
	20.1	4.4	99.9
	20.0	1.6	99.9
	18.8	0.5	99.9
	18.8	2.7	99.9

TEST TIME 225.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	25.0	11.6	12.7
	24.8	10.0	11.1
	23.3	9.0	8.3
	23.3	7.7	8.3
	22.3	8.3	8.3
	21.1	7.2	8.3
	20.8	9.4	9.4
	20.5	8.3	9.4
	20.0	7.7	8.0
	19.3	7.2	8.3

AFSS RUN # 11 DAY 2162

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	24.4	2.8	2.4
	24.5	5.5	1.5
	23.6	5.4	2.0
	23.5	5.5	2.5
	22.0	4.4	99.9
	21.6	5.5	99.9
	21.6	5.1	99.9
	21.1	4.1	99.9
	20.1	3.2	99.9
	20.0	5.0	99.9

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel Thermocouple	Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	25.5	9.4	10.8
	25.5	8.8	9.4
	24.7	8.8	9.4
	23.8	8.3	8.8
	23.6	8.3	8.6
	23.3	7.7	7.2
	22.2	8.3	8.1
	21.6	7.2	7.6
	21.1	7.2	7.2
	20.5	6.9	7.2

AFSS RUN # 11 DAY 2162

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 24.4	25.0	1.1	2.7
23.8	25.5	3.8	5.5
23.3	24.9	3.6	5.5
22.7	23.8	2.7	6.1
22.1	23.5	3.8	6.6
21.6	22.7	3.8	6.6
21.1	22.7	5.5	6.9
20.7	22.2	3.3	5.0
20.4	21.8	5.2	5.5
20.0	20.7	5.1	6.2

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 23.8	25.0	9.4	10.0
23.4	25.0	7.7	7.9
22.8	24.4	7.0	7.7
22.2	23.3	7.2	7.7
21.7	22.7	6.1	7.2
21.3	22.2	7.2	8.3
20.8	22.0	8.3	8.3
20.4	21.1	7.2	8.3
20.1	21.1	7.2	8.3
19.8	20.5	7.7	6.3

AFSS RUN #12 DAY 2166

Test Time (min)	4 Meter Dewcell Dew point	4 Meter Dewcell Temp	1 Meter Dewcell Dew point	1 Meter Dewcell Temp	Radiometers w/cm 2 West	Radiometers w/cm 2 East
0.0	11.7 C	11.1 C	11.5 C	11.1 C	0.000	0.000
5.0	11.6	11.1	11.5	11.1	0.000	0.000
10.0	11.7	11.1	11.6	11.1	0.000	0.460
15.0	11.8	11.2	11.8	11.2	0.690	1.149
20.0	11.8	11.1	11.8	11.2	1.149	2.529
25.0	11.8	11.1	11.8	11.2	2.529	4.828
30.0	11.7	11.0	11.7	11.1	2.069	4.598
35.0	11.8	10.9	11.7	11.2	2.299	4.368
40.0	11.6	10.9	11.7	11.2	2.069	4.368
45.0	11.6	10.9	11.6	11.1	2.069	4.138
50.0	11.8	11.0	11.6	11.1	2.299	4.368
55.0	11.8	11.0	11.6	11.1	2.529	4.368
60.0	11.8	10.9	11.6	11.2	2.069	4.368
65.0	11.6	10.9	11.6	11.1	2.759	3.908
70.0	11.6	10.9	11.7	11.1	2.069	4.138
75.0	11.6	10.9	11.6	11.1	1.839	4.138
80.0	11.6	10.9	11.5	11.0	1.839	3.908
85.0	11.5	10.8	11.5	11.0	2.069	4.138
90.0	11.6	10.8	11.5	11.1	1.609	3.908
95.0	11.5	10.9	11.5	11.1	1.839	4.138
100.0	11.5	10.8	11.6	11.1	1.839	3.908
105.0	11.5	10.8	11.6	11.0	1.609	3.908
110.0	11.5	10.8	11.5	11.0	1.379	3.678
115.0	11.7	10.9	11.5	11.0	1.379	3.678
120.0	11.7	10.9	11.6	11.1	1.839	3.678
125.0	11.6	10.9	11.7	11.1	2.069	3.678
130.0	11.7	10.8	11.7	11.0	2.069	3.908
135.0	11.6	10.8	11.6	11.0	2.069	3.678
140.0	11.5	10.8	11.7	11.0	2.069	3.678
145.0	11.6	10.8	11.6	11.0	2.299	3.678
150.0	11.7	10.9	11.6	11.0	2.069	3.678
155.0	11.7	11.0	11.7	11.0	2.069	3.678
160.0	11.7	11.0	11.8	11.1	2.069	3.678
165.0	11.7	11.0	11.7	11.1	2.299	3.678
170.0	11.8	11.1	11.8	11.2	2.069	3.678
175.0	11.7	11.0	11.9	11.2	2.069	3.678
180.0	11.8	11.0	11.8	11.2	2.069	3.678
185.0	11.7	11.0	11.8	11.1	2.069	3.908
190.0	11.7	11.1	11.8	11.2	1.839	3.678
195.0	11.9	11.2	11.7	11.1	2.069	3.448
200.0	11.9	11.2	11.8	11.2	2.069	3.448
205.0	12.0	11.2	11.9	11.3	2.069	3.448
210.0	11.9	11.1	11.9	11.2	1.839	3.678
215.0	11.8	11.2	11.9	11.3	2.069	3.678
220.0	11.8	11.3	11.9	11.3	1.839	3.448
225.0	11.8	11.3	12.0	11.4	2.069	3.448
230.0	12.0	11.4	12.0	11.4	2.069	3.448
235.0	12.0	11.4	12.1	11.4	2.069	3.678
240.0	12.0	11.4	12.1	11.4	2.069	3.448
245.0	12.1	11.4	12.1	11.5	2.069	3.678
250.0	12.0	11.4	12.1	11.5	1.839	3.678
255.0	12.0	11.4	12.1	11.5	2.069	3.678
260.0	12.1	11.5	12.1	11.5	2.069	3.678
265.0	12.1	11.6	12.2	11.6	2.069	3.678
270.0	12.1	11.6	12.2	11.5	2.299	3.678
275.0	12.0	11.7	12.2	11.6	2.299	3.908
280.0	12.1	11.6	12.2	11.7	2.069	3.678
285.0	12.2	11.7	12.3	11.7	2.299	3.908
290.0	12.2	11.8	12.3	11.8	2.069	3.908

AFSS RUN #12 DAY 2166

Test Time (min)	Ceiling East	Ceiling West	Floor East	Floor West	Plastic Walls N	S	E	W
0.0	10.20	11.70	12.80	13.60	11.80	11.90	11.60	12.20
5.0	10.2	11.7	12.7	13.6	11.7	11.9	11.6	12.1
10.0	10.3	11.6	12.7	13.6	11.7	11.9	11.6	12.1
15.0	10.3	11.6	12.7	13.6	11.7	11.9	11.6	12.1
20.0	10.6	11.6	12.7	13.6	11.6	11.9	11.6	12.1
25.0	10.6	11.7	12.7	13.5	11.6	11.9	11.6	12.1
30.0	10.6	11.6	12.6	13.5	11.5	11.9	11.6	12.0
35.0	10.7	11.7	12.6	13.4	11.4	11.8	11.7	12.0
40.0	10.7	11.7	12.5	13.4	11.4	11.8	11.7	11.9
45.0	10.7	11.7	12.4	13.4	11.4	11.8	11.6	11.9
50.0	10.6	11.7	12.4	13.4	11.4	11.8	11.6	11.9
55.0	10.7	11.7	12.4	13.3	11.4	11.8	11.7	11.9
60.0	10.7	11.7	12.4	13.3	11.4	11.8	11.7	11.9
65.0	10.7	11.7	12.4	13.3	11.4	11.8	11.7	11.9
70.0	10.6	11.6	12.3	13.2	11.4	11.7	11.7	11.9
75.0	10.6	11.5	12.3	13.2	11.3	11.7	11.6	11.9
80.0	10.6	11.4	12.3	13.2	11.3	11.6	11.6	11.8
85.0	10.6	11.4	12.2	13.2	11.2	11.7	11.6	11.8
90.0	10.7	11.4	12.2	13.1	11.3	11.7	11.6	11.8
95.0	10.7	11.3	12.2	13.1	11.3	11.6	11.6	11.8
100.0	10.9	11.4	12.2	13.1	11.3	11.7	11.6	11.8
105.0	11.1	11.4	12.2	13.1	11.3	11.7	11.6	11.9
110.0	11.2	11.6	12.2	13.1	11.3	11.6	11.6	11.8
115.0	11.3	11.5	12.1	13.1	11.3	11.6	11.6	11.8
120.0	11.6	11.5	12.1	13.0	11.2	11.8	11.6	11.8
125.0	11.6	11.6	12.1	13.0	11.2	11.7	11.6	11.8
130.0	11.6	11.6	12.1	13.0	11.2	11.6	11.6	12.1
135.0	11.8	11.7	12.1	12.9	11.1	11.6	11.6	11.8
140.0	11.7	11.7	12.1	12.9	11.2	11.6	11.6	11.7
145.0	11.9	11.7	12.1	12.9	11.2	11.7	11.6	11.8
150.0	12.2	11.8	12.1	12.9	11.3	11.7	11.6	11.8
155.0	12.7	11.9	12.1	12.9	11.3	11.7	11.7	11.8
160.0	12.8	12.1	12.1	12.9	11.3	11.8	11.7	11.9
165.0	12.7	12.1	12.2	12.9	11.4	11.8	11.7	11.9
170.0	12.9	12.1	12.1	12.9	11.4	11.8	11.8	11.[illegible]
175.0	12.9	12.2	12.1	12.9	11.4	11.8	11.8	12.1
180.0	13.0	12.2	12.1	12.9	11.5	11.8	11.8	12.0
185.0	13.4	12.3	12.1	12.9	11.6	11.8	11.8	12.0
190.0	13.4	12.4	12.1	12.9	11.6	11.8	11.8	12.1
195.0	13.9	12.5	12.2	12.9	11.6	11.8	11.9	12.1
200.0	14.2	12.6	12.2	12.8	11.6	11.9	11.9	12.1
205.0	14.0	12.7	12.2	12.8	11.5	11.9	11.9	12.1
210.0	14.3	12.8	12.2	12.8	11.5	11.9	11.9	12.1
215.0	14.7	13.1	12.2	12.8	11.6	12.0	12.0	12.1
220.0	14.4	13.2	12.2	12.8	11.7	12.1	12.1	12.2
225.0	14.6	13.3	12.2	12.8	11.7	12.1	12.1	12.2
230.0	14.7	13.4	12.2	12.8	11.7	12.1	12.2	12.3
235.0	14.3	13.4	12.2	12.8	11.8	12.1	12.2	12.3
240.0	14.3	13.4	12.2	12.8	11.8	12.2	12.2	12.3
245.0	15.2	13.5	12.2	12.8	11.8	12.2	12.3	12.3
250.0	15.6	13.9	12.2	12.8	11.9	12.2	12.3	12.4
255.0	15.7	14.1	12.2	12.8	11.9	12.2	12.3	12.4
260.0	16.3	14.3	12.3	12.8	12.0	12.3	12.4	12.5
265.0	17.0	14.7	12.3	12.8	12.1	12.3	12.4	12.6
270.0	18.5	15.1	12.3	12.8	12.1	12.4	12.5	12.6
275.0	18.9	15.3	12.3	12.8	12.1	12.4	12.6	12.6
280.0	19.2	15.5	12.3	12.8	12.1	12.5	12.6	12.7
285.0	19.6	15.6	12.3	12.8	12.2	12.5	12.7	12.8
290.0	19.5	15.6	12.3	12.8	12.2	12.7	12.7	12.8

AFSS RUN #12 DAY 2166

Test Time (min)	Thermocouple Readout by Position SIDE A 1	2	3	4	5	6	7	8
0.0	11.9	11.9	11.9	11.8	12.0	12.1	12.0	12.0
5.0	11.9	11.8	11.4	11.4	12.0	11.9	11.9	11.4
10.0	10.8	10.1	7.9	5.7	11.4	10.4	10.1	5.6
15.0	9.4	8.0	3.9	-2.2	10.2	8.2	6.7	-0.4
20.0	7.5	4.9	-3.6	-4.2	8.5	4.2	1.6	-1.4
25.0	4.8	-0.5	-5.4	-4.2	6.4	-2.2	-0.4	99.9
30.0	1.2	-4.8	-5.2	-3.8	2.7	-3.3	-0.2	99.9
35.0	1.4	-3.7	-5.2	-4.0	2.1	-3.7	-0.6	99.9
40.0	0.0	-4.0	-4.7	-3.6	2.4	-3.5	-0.1	99.9
45.0	-0.4	-4.3	-5.4	-3.8	2.0	-3.3	-0.4	99.9
50.0	-0.8	-4.4	-5.4	-3.7	1.2	-3.1	-0.4	99.9
55.0	-0.2	-4.8	-5.3	-3.2	1.8	-4.1	-0.7	99.9
60.0	0.2	-4.4	-5.3	-3.6	1.9	-3.4	-0.4	99.9
65.0	0.0	-4.9	-5.7	-3.4	0.4	-2.9	-0.1	-1.7
70.0	-1.6	-5.4	-5.7	-3.8	1.4	-3.3	-0.3	-2.3
75.0	0.9	-6.3	-6.2	-4.0	1.4	-3.8	-0.1	-2.1
80.0	1.2	-5.7	-5.9	-3.6	1.7	-3.2	0.0	-1.9
85.0	0.4	-5.4	-6.0	-3.6	0.4	-3.4	-0.6	-1.8
90.0	0.8	-3.7	-6.5	-3.3	0.1	-3.6	-0.1	-1.9
95.0	1.6	-2.2	-6.5	-4.2	1.2	-4.0	-0.6	-2.2
100.0	2.8	-4.1	-6.9	-4.0	2.3	-3.7	-0.4	-2.4
105.0	3.7	-3.6	-6.8	-4.1	3.6	-4.2	-0.3	-2.0
110.0	3.2	-2.4	-7.1	-4.2	3.9	-3.6	-0.7	-2.3
115.0	2.5	-1.8	-7.4	-4.0	1.9	-4.2	-0.8	-2.2
120.0	-2.3	-4.1	-7.1	-3.9	0.0	-5.2	-0.5	-2.6
125.0	-2.3	-4.7	-6.7	-3.9	-1.8	-6.1	-0.4	-2.7
130.0	-2.2	-5.6	-6.8	-3.4	-2.7	-7.3	-0.6	-2.6
135.0	-3.9	-5.9	-7.3	-3.5	-2.9	-7.4	-0.8	-2.6
140.0	-5.1	-5.7	-7.2	-3.6	-2.8	-7.5	-1.0	-2.6
145.0	-5.9	-6.0	-7.7	-3.6	-2.3	-7.6	-1.0	-2.6
150.0	-4.4	-6.1	-8.0	-3.9	-1.9	-6.8	-0.8	-2.7
155.0	-2.9	-7.2	-8.4	-4.0	-1.1	-5.9	-0.7	-2.6
160.0	-1.3	-7.2	-8.2	-3.7	-0.6	-5.3	-0.7	-2.7
165.0	-2.3	-6.0	-8.3	-3.9	-1.5	-4.6	-0.7	-2.8
170.0	-1.8	-6.6	-8.3	-3.4	-1.6	-5.1	-0.6	-2.9
175.0	-3.4	-5.7	-8.1	-3.6	-1.6	-6.8	-0.7	-2.8
180.0	-4.5	-6.5	-8.1	-3.8	-1.8	-7.0	-0.8	-2.7
185.0	-2.8	-7.4	-8.8	-4.1	-1.1	-5.9	-0.7	-2.9
190.0	-3.7	-3.6	-9.0	-3.7	-1.8	-5.5	-0.6	-2.9
195.0	-2.6	-5.6	-8.6	-3.9	-1.2	-5.3	-0.4	-2.8
200.0	-4.3	-4.8	-8.6	-3.6	-1.8	-6.3	-0.3	-2.6
205.0	-4.3	-5.5	-8.7	-3.7	-1.6	-5.9	-0.4	-2.6
210.0	-3.9	-5.3	-8.7	-3.8	-1.8	-5.9	-0.5	-2.7
215.0	-2.8	-5.1	-8.8	-3.5	-1.7	-5.9	-0.5	-2.7
220.0	-3.1	-5.3	-9.4	-4.1	-1.4	-5.3	-0.3	-2.4
225.0	-3.8	-5.2	-8.9	-3.6	-1.9	-5.4	-0.3	-2.6
230.0	-4.2	-5.3	-8.8	-3.8	-2.5	-6.0	-0.3	-2.6
235.0	-4.2	-5.8	-8.8	-3.7	-1.7	-6.8	-0.4	-2.7
240.0	-4.0	-5.6	-8.8	-3.9	-1.4	-5.3	-0.6	-2.7
245.0	-3.0	-6.4	-9.1	-3.8	-1.2	-6.1	-0.5	-2.7
250.0	-3.3	-6.4	-9.1	-3.6	-0.9	-6.3	-0.4	-2.6
255.0	-3.4	-6.1	-8.8	-3.0	-0.8	-6.5	-0.4	-2.5
260.0	-2.8	-5.9	-9.1	-3.5	-0.7	-6.4	-0.5	-2.7
265.0	-2.2	-5.8	-8.7	-3.4	-0.3	-5.9	-0.3	-2.6
270.0	-0.4	-6.1	-9.2	-3.5	-0.3	-5.7	-0.4	-2.7
275.0	-0.7	-6.1	-9.2	-3.4	-0.2	-5.4	-0.3	-2.8
280.0	-1.4	-6.0	-8.6	-2.4	-0.4	-5.1	-0.1	-2.3
285.0	-2.4	-2.7	-8.4	-2.3	-0.3	-4.7	0.2	-2.1
290.0	-1.7	-4.9	-8.1	-2.3	-0.7	-4.9	0.5	-2.0

AFSS RUN #12 DAY 2166

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	11.9	12.2	12.2	12.1	11.9	12.1	12.2	12.2
5.0	11.9	12.1	12.0	11.8	11.9	12.1	12.1	12.0
10.0	11.5	11.1	10.1	8.7	11.6	11.3	10.3	9.3
15.0	10.6	9.3	6.9	2.1	10.7	9.9	7.8	3.6
20.0	9.7	6.8	1.8	0.7	9.8	8.3	3.7	1.1
25.0	8.1	1.8	-0.7	0.9	8.5	4.9	-0.1	0.8
30.0	6.9	3.8	0.8	0.7	7.2	5.1	0.5	0.4
35.0	6.2	4.3	1.1	0.6	6.7	5.7	1.5	0.6
40.0	5.7	4.0	1.5	0.8	6.3	5.8	1.8	3.8
45.0	5.6	3.3	1.8	4.6	5.9	5.7	0.6	1.0
50.0	5.6	2.3	0.4	0.8	6.4	4.1	0.3	0.7
55.0	5.1	1.5	0.3	0.5	5.9	2.9	0.4	0.5
60.0	5.8	3.4	1.6	1.8	6.5	5.7	1.5	1.5
65.0	5.2	3.4	2.0	1.1	6.2	6.1	1.8	1.1
70.0	5.2	3.9	2.4	1.2	6.0	5.4	1.0	1.6
75.0	5.5	2.1	1.9	3.1	6.2	5.1	1.0	1.3
80.0	5.7	2.1	1.2	1.3	6.4	5.0	0.3	0.7
85.0	5.7	1.8	0.7	0.4	6.6	5.0	-0.1	0.4
90.0	6.3	3.4	1.3	0.6	6.8	6.1	0.5	0.5
95.0	6.1	3.6	1.6	0.9	6.8	6.2	1.0	0.7
100.0	6.6	4.3	1.6	0.7	7.3	6.1	0.4	1.2
105.0	6.6	3.7	1.7	1.3	7.4	6.2	1.1	1.4
110.0	6.8	4.3	1.9	1.0	7.4	6.9	1.1	0.8
115.0	6.4	4.8	1.8	0.9	6.8	7.2	0.4	0.8
120.0	3.5	1.2	0.8	0.9	4.4	4.6	0.1	0.4
125.0	2.7	0.2	0.1	0.8	4.2	3.2	-0.1	0.4
130.0	3.1	-0.2	0.7	1.2	4.2	3.6	0.4	0.8
135.0	3.1	0.0	0.7	1.3	4.2	3.9	0.4	0.7
140.0	2.1	0.4	0.3	1.4	3.4	3.6	0.2	0.8
145.0	1.4	0.0	-0.1	0.8	1.1	2.8	0.0	0.6
150.0	2.4	0.1	0.4	1.1	2.4	3.1	0.1	0.8
155.0	2.9	0.9	0.6	0.9	3.6	3.4	0.0	0.8
160.0	3.4	1.1	0.8	0.4	4.0	3.9	0.3	0.7
165.0	1.7	-0.4	0.5	0.4	1.9	2.7	0.2	0.8
170.0	2.9	1.1	0.5	0.9	3.1	4.5	0.2	0.7
175.0	1.7	1.4	0.6	1.3	2.2	4.1	0.3	1.1
180.0	1.9	1.8	0.5	1.2	1.8	4.0	0.4	0.9
185.0	3.1	1.8	0.6	1.3	3.2	4.3	0.3	0.9
190.0	2.2	2.3	0.8	1.2	1.2	5.2	0.6	0.8
195.0	3.0	2.1	1.0	1.2	2.4	4.8	0.8	0.7
200.0	2.1	1.5	0.9	1.2	2.2	4.8	0.7	1.1
205.0	2.9	1.1	0.9	1.2	2.9	4.1	0.6	0.8
210.0	3.3	1.4	0.8	0.6	3.3	4.5	0.4	0.8
215.0	3.2	1.7	0.8	1.3	3.2	4.7	0.4	0.9
220.0	3.3	2.6	1.3	1.4	2.7	5.3	1.0	1.2
225.0	3.1	2.4	1.0	1.2	3.0	4.9	0.8	0.9
230.0	2.2	1.9	1.3	1.2	2.2	5.2	0.6	1.1
235.0	2.7	1.5	0.9	1.2	2.5	4.9	0.4	0.8
240.0	2.4	1.9	0.8	1.2	2.2	4.9	0.4	0.8
245.0	2.9	2.4	1.0	1.1	3.3	5.4	0.4	1.0
250.0	3.3	2.8	1.2	1.5	3.4	5.3	0.8	1.0
255.0	3.4	2.1	1.1	1.2	3.5	5.3	0.8	0.9
260.0	3.7	2.8	1.3	1.2	4.2	5.6	0.8	0.9
265.0	3.4	2.9	1.3	1.2	3.4	5.6	0.8	1.2
270.0	4.2	2.5	1.0	1.0	4.4	5.1	0.5	0.9
275.0	4.1	2.9	1.0	1.1	4.4	5.4	0.6	1.0
280.0	4.1	3.3	1.4	1.5	4.1	6.3	1.0	1.2
285.0	3.7	2.8	1.1	1.0	3.7	5.4	0.8	1.1
290.0	4.7	3.6	1.3	1.2	4.7	6.4	1.0	1.2

AFSS RUN #12 DAY 2166

Test Time (min)	Temperature at SOFI Depth: 16.7mm (.66in)	14.0mm (.55in)	32.5mm (1.28in)
0.0	12.4 C	12.3 C	12.2 C
5.0	9.1	8.4	11.9
10.0	0.2	1.0	10.6
15.0	-7.3	-9.5	8.4
20.0	-6.0	-10.3	44.8
25.0	-7.3	-10.7	1.9
30.0	-7.7	-9.9	3.4
35.0	-8.1	-10.6	3.8
40.0	-7.7	-11.6	4.7
45.0	-6.2	-11.1	4.3
50.0	-9.2	-12.4	3.1
55.0	-9.7	-11.6	3.4
60.0	-7.7	-11.9	4.8
65.0	-8.4	-12.7	5.2
70.0	-9.8	-13.3	4.3
75.0	-8.4	-13.8	4.7
80.0	-9.6	-13.9	4.0
85.0	-11.3	-14.5	3.1
90.0	-11.5	-14.4	4.0
95.0	-10.1	-15.2	6.0
100.0	-10.4	-15.3	4.7
105.0	-11.7	-16.2	4.0
110.0	-12.0	-16.3	4.3
115.0	-9.6	-16.3	4.1
120.0	-3.2	-17.1	3.6
125.0	-7.3	-16.9	2.7
130.0	-5.7	-17.1	3.4
135.0	-6.9	-17.4	3.1
140.0	-7.4	-18.1	3.0
145.0	-7.8	-17.8	2.7
150.0	-8.1	-18.6	2.8
155.0	-7.8	-18.6	3.0
160.0	-8.3	-18.8	3.4
165.0	-8.8	-18.9	2.9
170.0	-9.2	-19.5	3.6
175.0	-8.7	-19.0	3.4
180.0	-9.1	-19.8	3.3
185.0	-9.4	-19.7	3.2
190.0	-9.6	-19.9	3.6
195.0	-9.9	-19.9	3.7
200.0	-9.2	-20.2	3.6
205.0	-9.4	-20.2	3.4
210.0	-9.8	-20.6	3.4
215.0	-9.3	-20.9	3.8
220.0	-4.9	-20.9	3.8
225.0	-7.3	-20.7	3.6
230.0	-8.2	-21.2	3.8
235.0	-8.6	-21.1	3.5
240.0	-8.6	-21.4	3.7
245.0	-8.8	-21.4	3.7
250.0	-8.2	-21.9	4.3
255.0	-8.8	-20.5	3.8
260.0	-8.6	-21.4	4.0
265.0	-8.6	-21.8	3.9
270.0	-9.2	-21.9	3.8
275.0	-9.2	-21.9	3.6
280.0	-7.6	-21.1	4.3
285.0	-7.9	-20.6	3.9
290.0	-8.2	-21.3	4.1

AFSS RUN # 12 DAY 2166

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel			SOFI Panel Pyrometer Data	
Thermocouple		Pyrometer	Left	Right
TOP	11.6	8.6	10.6	9.4
	11.6	8.5	9.4	8.4
	11.6	9.4	9.3	9.4
	11.6	9.4	11.1	10.0
	11.6	10.2	8.0	8.8
	11.6	8.0	8.8	9.2
	11.5	8.8	6.8	9.0
	11.6	9.0	8.3	8.3
	11.6	8.8	7.3	8.3
	11.6	10.0	4.5	5.0

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel			SOFI Panel Pyrometer Data	
Thermocouple		Pyrometer	Left	Right
TOP	11.5	10.0	8.3	10.2
	11.5	11.1	8.3	8.4
	11.5	10.0	8.4	9.0
	11.5	10.5	8.3	8.4
	11.6	10.5	8.3	8.3
	11.6	10.1	6.8	7.2
	11.5	10.6	3.8	5.5
	11.6	10.6	1.6	2.7
	11.6	11.1	-2.2	0.0
	11.6	11.1	-0.3	-0.3

AFSS RUN # 12 DAY 2166

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.4	10.8	-8.0	-8.3
	11.3	10.8	-1.1	-2.7
	11.3	10.5	-2.2	-3.3
	11.3	11.1	-6.1	-5.5
	11.4	11.1	-8.8	-6.6
	11.4	10.6	-6.8	-7.7
	11.4	11.1	-7.1	-7.7
	11.4	10.6	-8.1	-9.4
	11.4	10.5	-8.4	-8.5
	11.5	10.8	-7.2	-6.7

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.2	10.5	1.6	3.8
	11.1	10.5	2.7	5.4
	11.1	10.5	1.6	3.3
	11.2	10.5	2.7	4.4
	11.2	10.5	2.7	2.7
	11.2	10.5	0.5	-0.5
	11.3	10.5	0.0	0.0
	11.4	10.6	-1.1	-1.6
	11.4	11.1	-2.0	-1.6
	11.4	11.1	-1.4	-1.1

AFSS RUN # 12 DAY 2166

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel | SOFI Panel Pyrometer Data

Thermocouple		Pyrometer	Left	Right
TOP	11.1	10.0	-6.1	-8.3
	11.1	10.5	-1.6	-3.8
	11.2	10.5	-5.5	-6.6
	11.2	10.3	-5.5	-6.1
	11.2	10.5	-6.1	-8.3
	11.2	10.5	-7.2	-7.3
	11.3	10.5	-6.6	-6.1
	11.3	10.5	-8.8	-8.3
	11.4	10.5	-8.3	-7.2
	11.4	10.6	-7.2	-6.6

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel | SOFI Panel Pyrometer Data

Thermocouple		Pyrometer	Left	Right
TOP	11.1	10.7	2.7	4.4
	11.1	11.1	2.2	5.0
	11.1	11.1	1.1	3.3
	11.1	11.1	1.6	4.0
	11.2	11.1	2.2	4.4
	11.2	11.1	1.6	2.2
	11.3	10.8	1.6	1.2
	11.3	11.1	-0.3	-2.0
	11.3	11.1	-2.2	-2.1
	11.3	11.1	-2.1	-1.6

AFSS RUN # 12 DAY 2166

TEST TIME 90.0 MINS
SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	10.9	10.4	-9.4	-11.5
	10.9	10.0	0.5	-4.4
	10.9	11.0	-0.5	-3.8
	11.1	11.1	-4.1	-5.0
	11.1	10.5	-3.8	-7.2
	11.1	11.1	-6.1	-7.2
	11.1	11.0	-7.2	-6.7
	11.2	10.9	-9.2	-9.1
	11.2	11.1	-8.7	-7.2
	11.2	11.1	-8.1	-7.7

TEST TIME 105.0 MINS
SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	10.9	11.0	3.5	5.5
	10.9	11.1	3.8	6.3
	11.1	10.9	3.3	4.2
	11.1	10.6	3.3	5.5
	11.1	10.6	4.0	5.5
	11.2	11.1	2.6	2.2
	11.2	10.7	1.6	1.3
	11.2	11.1	-0.5	-0.5
	11.3	11.5	-1.6	-1.1
	11.3	11.1	-0.5	0.3

AFSS RUN # 12 DAY 2166

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	10.9	10.5	-7.5	-11.0
	10.9	10.6	-0.6	-4.4
	10.9	10.6	-1.1	-3.8
	10.9	11.0	-2.7	-4.4
	11.1	10.5	-5.3	-6.6
	11.1	11.0	-5.5	-6.1
	11.1	10.8	-6.1	-6.1
	11.1	11.1	-6.6	-6.5
	11.2	11.1	-6.6	-5.4
	11.2	10.5	-5.1	-4.8

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.0	11.1	0.5	3.8
	10.9	11.1	1.6	4.4
	10.9	11.1	1.6	2.7
	11.0	11.2	2.2	4.4
	11.0	11.1	3.3	4.4
	11.0	11.1	1.6	2.2
	11.1	11.1	0.5	2.2
	11.1	11.1	0.8	1.1
	11.1	11.1	0.5	1.6
	11.1	11.3	1.6	1.6

AFSS RUN # 12 DAY 2166

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.1	11.1	-10.0	-12.2
	11.0	11.4	-3.8	-5.5
	11.0	11.6	-4.1	-6.0
	11.0	11.1	-5.5	-6.8
	11.0	11.1	-6.6	-7.2
	11.0	11.1	-7.7	-7.5
	11.1	11.2	-6.6	-6.1
	11.1	11.1	-7.7	-7.2
	11.1	11.2	-9.4	-7.4
	11.1	11.1	-7.7	-7.7

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.1	11.1	1.1	2.2
	11.1	11.1	0.0	3.0
	11.1	11.1	-0.5	2.7
	11.1	11.2	1.5	4.4
	11.1	11.1	1.6	4.4
	11.1	11.1	1.1	1.6
	11.1	11.1	1.1	0.6
	11.1	11.1	0.3	1.1
	11.2	11.1	0.5	0.8
	11.2	11.1	1.0	1.6

AFSS RUN # 12 DAY 2166

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	11.3	11.1	-10.5	-12.2
	11.2	11.1	-5.5	-6.1
	11.2	11.2	-4.3	-6.6
	11.2	11.5	-6.0	-6.6
	11.2	11.1	-7.7	-7.7
	11.2	11.1	-7.7	-6.6
	11.2	11.1	-7.7	-6.6
	11.2	11.1	-8.3	-8.3
	11.3	11.1	-9.3	-7.2
	11.3	11.1	-7.7	-8.3

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	11.4	11.2	2.2	3.8
	11.4	11.1	1.6	3.3
	11.3	11.1	1.6	3.3
	11.3	11.1	2.2	5.0
	11.3	11.1	2.6	5.5
	11.2	11.1	1.6	2.2
	11.2	11.1	1.6	1.6
	11.2	11.1	1.1	1.5
	11.3	11.1	0.0	1.1
	11.3	11.6	0.8	1.1

AFSS RUN # 12 DAY 2166

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.3	11.1	-10.2	-12.5
	11.3	11.1	-5.0	-6.1
	11.3	11.1	-2.7	-6.1
	11.3	11.1	-3.3	-6.0
	11.3	10.5	-6.6	-7.2
	11.3	11.5	-6.1	-6.9
	11.3	11.1	-6.1	-6.6
	11.3	11.1	-8.3	-7.9
	11.3	11.1	-8.6	-7.0
	11.3	11.6	-6.6	-7.2

TEST TIME 225.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	11.6	11.1	1.1	2.7
	11.5	11.1	0.8	2.7
	11.4	11.2	0.2	3.2
	11.4	11.1	1.7	5.0
	11.4	12.2	2.7	5.0
	11.4	11.2	2.2	2.7
	11.4	11.6	1.6	1.5
	11.4	11.4	0.0	0.3
	11.4	11.7	0.0	0.2
	11.4	11.7	1.1	0.5

AFSS RUN # 12 DAY 2166

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 11.7	11.6	-9.4	-11.3
11.7	11.6	-4.4	-6.1
11.6	12.2	-2.2	-5.8
11.6	12.1	-2.7	-6.2
11.6	11.6	-6.1	-7.2
11.6	11.6	-6.1	-6.6
11.6	11.6	-6.1	-6.1
11.6	11.6	-6.5	-6.1
11.6	11.1	-7.3	-5.3
11.6	11.3	-6.3	-5.0

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 11.8	11.6	3.3	5.0
11.8	11.6	2.7	4.4
11.7	11.7	2.7	5.5
11.7	11.6	4.4	6.6
11.7	11.6	4.0	5.5
11.7	11.6	2.7	3.8
11.7	11.6	2.7	2.3
11.7	11.6	2.0	2.2
11.7	11.1	1.2	1.6
11.7	11.1	2.2	2.7

AFSS RUN # 12 DAY 2166

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	11.9	12.2	-9.4	-9.4
	11.9	12.2	-2.5	-4.4
	11.8	12.5	-0.9	-5.5
	11.8	12.1	-2.0	-5.5
	11.8	12.2	-4.8	-6.1
	11.8	11.6	-6.3	-6.1
	11.8	11.7	-6.1	-5.7
	11.8	11.6	-6.6	-6.6
	11.8	12.2	-6.5	-5.5
	11.8	12.3	-6.0	-7.2

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	12.2	13.1	3.3	5.5
	12.1	12.7	4.2	5.6
	12.0	12.7	2.7	6.1
	12.0	12.7	5.0	6.1
	12.1	12.3	4.8	6.1
	12.0	12.3	3.3	2.7
	12.0	13.3	2.7	2.2
	12.0	13.1	0.5	0.8
	12.0	12.2	1.6	1.1
	12.0	12.2	1.6	1.1

AFSS RUN #13 DAY 2168

Test Time (min)	4 Meter Dewcell Dew point	Temp	1 Meter Dewcell Dew point	Temp	Radiometers w/cm 2 West	East
0.0	15.8 C	15.1 C	15.5 C	15.0 C	0.000	0.000
5.0	15.7	15.1	15.5	15.0	0.000	0.000
10.0	15.6	15.1	15.5	15.0	0.000	0.000
15.0	15.6	14.9	15.5	15.0	0.460	0.920
20.0	15.7	15.1	15.5	15.0	1.149	1.839
25.0	15.6	15.0	15.4	14.9	2.069	3.448
30.0	15.5	15.0	15.3	14.8	3.218	3.908
35.0	15.5	14.9	15.2	14.8	3.218	3.908
40.0	15.5	14.9	15.2	14.7	3.678	3.908
45.0	15.4	14.7	15.2	14.7	3.448	3.908
50.0	15.4	14.8	15.2	14.7	3.448	3.908
55.0	15.3	14.8	15.2	14.7	3.448	3.908
60.0	15.3	14.8	15.1	14.7	3.448	3.678
65.0	15.4	14.8	15.2	14.8	3.448	3.908
70.0	15.4	14.8	15.1	14.7	3.448	3.908
75.0	15.4	14.8	15.1	14.8	3.448	3.908
80.0	15.4	14.7	15.1	14.7	3.448	3.678
85.0	15.4	14.8	15.1	14.7	3.448	3.908
90.0	15.3	14.6	15.1	14.7	3.448	3.678
95.0	15.3	14.6	15.0	14.6	3.448	3.678
100.0	15.4	14.5	15.1	14.6	3.218	3.678
105.0	15.3	14.4	15.1	14.4	2.988	3.678
110.0	15.4	14.4	15.1	14.5	2.988	3.678
115.0	15.3	14.3	15.1	14.4	2.988	3.678
120.0	15.4	14.4	15.2	14.5	2.988	3.678
125.0	15.4	14.4	15.1	14.4	2.988	3.678
130.0	15.4	14.4	15.1	14.4	2.988	3.448
135.0	15.2	14.4	15.0	14.3	2.988	3.678
140.0	15.1	14.4	14.9	14.3	3.218	3.678
145.0	15.1	14.5	14.9	14.3	3.218	3.678
150.0	15.1	14.4	14.9	14.3	3.218	3.678
155.0	15.1	14.4	14.9	14.3	3.218	3.678
160.0	15.1	14.5	14.8	14.3	3.218	3.678
165.0	15.1	14.5	14.8	14.3	3.218	3.678
170.0	15.1	14.5	14.8	14.3	3.218	3.678
175.0	15.1	14.3	14.8	14.3	3.218	3.678
180.0	15.1	14.3	14.9	14.4	3.218	3.678
185.0	15.2	14.6	14.8	14.4	3.218	3.908
190.0	15.1	14.6	14.8	14..4	3.218	3.678
195.0	15.2	14.6	14.8	14.4	3.218	3.908
200.0	15.2	14.7	14.8	14.5	3.218	3.908
205.0	15.1	14.6	14.9	14.6	3.218	3.678
210.0	15.2	14.5	14.8	14.6	3.218	3.678
215.0	15.2	14.6	14.9	14.6	3.218	3.678
220.0	15.2	14.6	14.8	14.6	3.218	3.678
225.0	15.2	14.5	14.8	14.6	3.218	3.678
230.0	15.2	14.6	14.9	14.7	3.218	3.678
235.0	15.3	14.7	14.9	14.7	3.218	3.678
240.0	15.2	14.7	15.0	14.7	2.988	3.678
245.0	15.2	14.7	15.0	14.7	3.218	3.678
250.0	15.3	14.7	15.0	14.7	3.218	3.678
255.0	15.2	14.7	15.0	14.7	3.218	3.678
260.0	15.3	14.8	15.0	14.7	3.218	3.678
265.0	15.4	14.8	15.0	14.8	3.218	3.678
270.0	15.4	14.9	15.1	14.9	3.218	3.678
275.0	15.4	14.9	15.1	14.9	3.218	3.678
280.0	15.3	15.0	15.0	14.9	3.218	3.678
285.0	15.4	15.0	15.1	14.9	3.218	3.678
290.0	15.4	15.0	15.1	14.9	2.988	3.678

AFSS RUN #13 DAY 2168

Test Time (min)	Ceiling East	Ceiling West	Floor East	Floor West	Plastic Walls N	Plastic Walls S	Plastic Walls E	Plastic Walls W
0.0	14.10	15.10	14.90	15.30	15.10	15.10	14.80	15.20
5.0	14.0	15.0	14.9	15.3	14.9	15.1	14.8	15.2
10.0	14.0	14.9	14.9	15.3	14.8	15.0	14.8	15.1
15.0	14.0	14.9	14.5	15.2	14.8	15.1	11.7	15.1
20.0	13.9	14.9	14.9	15.2	14.7	15.1	14.8	15.1
25.0	13.9	14.8	14.8	15.2	14.7	114.0	14.7	15.0
30.0	13.8	14.7	14.8	15.1	14.6	14.8	14.7	14.9
35.0	13.8	14.7	14.7	15.1	14.6	14.8	14.6	14.8
40.0	13.8	14.6	14.7	15.1	14.5	14.8	14.6	14.8
45.0	13.8	14.6	14.7	15.1	14.5	14.7	14.6	14.8
50.0	13.8	14.6	14.6	15.1	14.4	14.8	14.6	14.8
55.0	13.8	14.7	14.6	14.9	14.4	14.7	14.6	14.8
60.0	13.8	14.7	14.6	15.0	14.4	14.7	14.5	14.8
65.0	13.8	14.8	14.5	14.9	14.5	14.7	14.6	14.8
70.0	13.8	14.8	14.4	14.9	14.4	14.7	14.5	14.8
75.0	13.8	14.7	14.4	14.9	14.4	14.7	14.5	14.8
80.0	13.8	14.7	14.4	14.9	14.4	14.7	14.4	14.8
85.0	13.9	14.7	14.4	14.9	14.4	14.6	14.5	14.8
90.0	13.9	14.6	14.4	14.9	14.3	14.6	14.4	14.7
95.0	13.9	14.6	14.3	14.8	14.3	14.6	14.4	14.7
100.0	13.9	14.6	14.3	14.8	14.2	14.6	14.4	14.6
105.0	13.9	14.6	14.3	14.8	14.2	14.5	14.4	14.6
110.0	13.9	14.6	14.3	14.8	14.2	14.5	14.3	14.6
115.0	13.9	14.6	14.3	14.8	14.2	14.5	14.4	14.6
120.0	14.1	14.6	14.3	14.8	14.2	14.5	14.3	14.6
125.0	14.1	14.6	14.3	14.7	14.2	14.4	14.4	14.6
130.0	14.2	14.6	14.2	14.7	14.2	14.4	14.3	14.6
135.0	14.2	14.6	14.2	14.7	14.2	14.4	14.3	14.6
140.0	14.2	14.5	14.2	14.7	14.2	14.4	14.3	14.6
145.0	14.3	14.6	14.1	14.7	14.2	14.4	14.3	14.6
150.0	14.3	14.6	14.1	14.7	14.1	14.4	14.3	14.6
155.0	14.3	14.5	14.1	14.7	14.2	14.4	14.3	14.6
160.0	14.3	14.5	14.1	14.7	14.2	14.4	14.3	14.6
165.0	14.4	14.6	14.1	14.6	14.2	14.4	14.3	14.6
170.0	14.3	14.6	14.1	14.7	14.2	14.4	14.3	14.6
175.0	14.3	14.5	14.1	14.7	14.2	14.4	14.3	14.6
180.0	14.4	14.6	14.1	14.7	14.2	14.5	14.3	14.6
185.0	14.6	14.6	14.0	14.7	14.2	14.4	14.3	14.6
190.0	14.6	14.7	14.0	14.6	14.2	14.5	14.4	14.6
195.0	14.6	14.7	14.0	14.6	14.2	14.5	14.3	14.6
200.0	14.6	14.7	14.0	14.6	14.2	14.6	14.4	14.7
205.0	14.6	14.7	14.0	14.6	14.2	14.5	14.4	14.6
210.0	14.8	14.7	14.0	14.7	14.2	14.5	14.4	14.6
215.0	15.0	14.7	13.9	14.6	14.2	14.5	14.4	14.6
220.0	15.3	14.8	14.0	14.6	14.2	14.5	14.4	14.6
225.0	15.5	14.8	13.9	14.6	14.3	14.5	14.4	14.6
230.0	15.4	14.9	13.9	14.6	14.3	14.6	14.5	14.7
235.0	15.4	14.9	13.9	14.6	14.3	14.6	14.5	14.7
240.0	15.9	15.0	13.9	14.6	14.3	14.6	14.5	14.7
245.0	16.1	15.1	13.9	14.6	14.3	14.6	14.6	14.7
250.0	16.0	15.1	13.9	14.6	14.3	14.6	14.6	14.7
255.0	16.5	15.2	13.9	14.6	14.3	14.7	14.6	14.8
260.0	17.3	15.3	13.9	14.6	14.4	14.7	14.6	14.8
265.0	17.7	15.6	13.9	14.6	14.4	14.7	14.7	14.8
270.0	17.2	15.6	13.9	14.6	14.4	14.8	14.7	14.9
275.0	16.8	15.6	13.9	14.7	14.5	14.8	14.7	14.9
280.0	16.0	15.4	13.9	14.6	14.5	14.8	14.7	14.9
285.0	15.9	15.3	13.9	14.6	14.5	14.8	14.7	14.9
290.0	16.0	15.3	13.9	14.6	14.5	14.8	14.7	14.9

AFSS RUN #13 DAY 2168

Test Time (min)	Thermocouple Readout by Position SIDE A 1	2	3	4	5	6	7	8
0.0	15.2	15.2	15.2	15.1	15.1	15.1	15.2	15.2
5.0	15.1	15.0	14.8	14.8	15.0	15.0	15.0	14.7
10.0	14.2	13.5	11.7	10.3	14.2	13.7	13.3	10.2
15.0	12.8	11.2	7.6	1.6	13.0	11.3	10.3	3.9
20.0	11.2	8.5	1.3	0.1	11.3	8.2	6.0	2.3
25.0	9.0	4.4	-0.6	-0.1	9.0	3.4	3.6	2.2
30.0	4.3	-1.1	-0.8	0.1	5.4	0.6	2.9	2.2
35.0	0.0	-1.5	-0.3	0.7	2.2	-0.6	3.0	2.4
40.0	-0.4	-0.7	-0.9	-0.2	1.8	-1.6	2.8	1.9
45.0	-0.8	-2.1	-0.9	-0.2	1.7	-1.9	2.8	1.7
50.0	-1.3	-2.6	-0.6	0.4	2.1	-2.2	2.7	1.9
55.0	-0.6	-3.3	-1.1	-0.1	1.8	-2.4	2.6	1.8
60.0	-1.1	-3.7	-1.2	-0.4	2.2	-2.3	2.4	1.5
65.0	-1.3	-4.1	-1.1	-0.3	2.3	-2.2	2.2	1.7
70.0	-1.0	-4.6	-1.3	-0.3	2.2	-2.6	2.3	1.3
75.0	-1.4	-4.4	-1.4	-0.3	2.1	-2.1	2.4	1.5
80.0	-1.4	-4.8	-1.6	-0.5	2.2	-2.3	2.4	1.5
85.0	-1.8	-4.7	-1.6	-0.4	2.1	-2.3	2.1	1.4
90.0	-1.7	-5.0	-1.8	-0.4	1.6	-2.6	2.3	1.4
95.0	-1.8	-5.4	-1.8	-0.6	1.7	-2.7	2.2	1.6
100.0	-1.8	-5.6	-2.1	-0.6	1.6	-2.2	2.4	1.2
105.0	-1.8	-5.7	-2.2	-0.5	1.7	-2.3	2.3	1.3
110.0	-0.5	-3.8	-2.2	-0.6	2.2	-2.5	1.9	1.2
115.0	-0.9	-5.1	-2.4	-0.5	2.9	-2.8	2.2	1.1
120.0	-1.1	-4.9	-2.1	0.0	2.3	-2.7	2.3	1.7
125.0	-1.1	-5.7	-2.4	-0.3	2.4	-2.8	1.9	0.8
130.0	-1.7	-5.6	-2.4	-0.4	1.8	-2.7	1.9	1.1
135.0	-2.1	-5.9	-2.6	-0.3	1.7	-3.2	2.2	1.2
140.0	-2.7	-5.7	-2.6	-0.5	2.0	-3.3	2.5	1.4
145.0	-2.7	-5.9	-2.7	-0.6	1.5	-3.3	2.2	1.3
150.0	-3.1	-6.1	-2.7	-0.6	1.4	-3.4	2.1	1.3
155.0	-2.4	-6.2	-2.8	-0.4	1.3	-3.2	2.0	1.0
160.0	-3.3	-6.5	-3.3	-0.6	0.9	-1.9	2.0	1.2
165.0	-2.7	-6.6	-3.1	-0.5	0.9	-2.8	2.1	1.0
170.0	-2.7	-6.5	-2.9	-0.4	1.0	-3.1	2.1	0.9
175.0	-3.1	-6.8	-3.1	-0.4	0.6	-3.5	1.8	0.7
180.0	-3.2	-6.9	-3.2	-0.3	0.8	-3.1	2.3	1.1
185.0	-3.3	-6.9	-3.2	-0.3	1.2	-3.0	1.9	0.9
190.0	-3.2	-6.9	-3.1	-0.3	1.4	-3.0	2.3	0.9
195.0	-3.1	-7.0	-3.0	-0.2	1.3	-2.8	2.1	0.9
200.0	-3.5	-7.3	-2.9	-0.1	1.4	-2.6	2.5	1.4
205.0	-3.5	-7.3	-3.1	-0.1	1.1	-3.0	2.7	1.2
210.0	-3.2	-7.5	-3.4	0.3	0.9	-2.9	2.2	0.6
215.0	-3.0	-7.6	-3.5	0.1	1.1	-1.9	2.1	0.4
220.0	-3.2	-7.6	-3.4	-0.1	0.9	-2.9	1.8	0.4
225.0	-3.6	-8.0	-3.5	-0.1	0.5	-3.0	1.9	0.1
230.0	-2.0	-8.1	-3.8	-0.4	1.2	-1.9	2.3	0.6
235.0	-3.3	-6.9	-3.9	-0.3	1.0	-2.8	2.2	0.6
240.0	-3.3	-8.0	-3.8	-0.3	1.0	-3.1	1.9	0.4
245.0	-3.2	-8.1	-3.8	-0.3	1.1	-3.2	2.1	0.4
250.0	-3.3	-8.1	-3.9	-0.1	0.9	-2.9	2.1	0.3
255.0	-3.3	-8.3	-4.2	-0.3	1.3	-3.1	2.4	0.2
260.0	-3.3	-8.5	-4.3	-0.4	1.3	-3.1	2.3	0.2
265.0	-3.2	-8.3	-4.2	-0.4	1.3	-2.9	2.4	0.4
270.0	-2.9	-8.2	-3.8	-0.2	1.3	-2.8	2.3	0.4
275.0	-2.8	-6.8	-4.0	-0.1	1.2	-2.9	2.3	0.3
280.0	-2.8	-7.8	-3.3	0.2	1.4	-2.9	2.4	0.5
285.0	-2.7	-8.1	-3.7	0.0	1.3	-2.7	2.4	0.4
290.0	-2.7	-8.1	-3.8	-0.2	1.2	-2.4	2.4	0.2

AFSS RUN #13 DAY 2168

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	15.2	15.2	15.3	15.3	15.2	15.2	15.3	15.2
5.0	15.2	15.2	15.2	15.0	15.2	15.2	15.1	15.1
10.0	14.8	14.3	13.6	11.9	14.8	14.5	13.6	12.4
15.0	13.8	12.6	10.8	6.1	13.9	13.2	11.1	7.7
20.0	12.7	10.2	6.4	3.7	12.9	11.3	7.7	4.8
25.0	11.1	6.2	3.4	3.6	11.3	8.9	4.1	4.0
30.0	8.3	1.1	2.6	3.1	8.7	3.8	3.1	3.8
35.0	3.9	0.5	2.2	3.1	3.8	1.2	2.8	3.6
40.0	5.1	0.8	2.2	3.3	2.7	0.6	2.6	3.9
45.0	5.5	2.8	3.1	4.1	2.6	1.1	3.0	4.1
50.0	5.8	2.3	2.4	3.2	2.8	1.1	2.8	3.8
55.0	5.5	2.1	2.1	3.1	2.7	0.9	2.3	3.3
60.0	5.2	2.5	1.9	2.8	2.7	0.8	2.5	3.6
65.0	5.5	2.7	1.9	3.1	2.8	0.8	2.3	3.2
70.0	5.7	2.3	2.2	3.0	3.0	0.7	2.4	3.5
75.0	5.4	2.6	2.0	2.8	2.9	0.8	2.4	3.4
80.0	5.2	2.4	2.4	3.3	2.7	0.3	2.7	3.8
85.0	5.0	2.5	2.3	2.8	2.5	0.9	2.3	3.1
90.0	4.9	2.4	2.1	3.8	2.2	1.0	2.8	3.4
95.0	5.3	2.6	1.9	3.1	2.3	0.9	2.4	3.3
100.0	5.6	2.3	1.8	2.8	2.9	0.9	1.9	3.2
105.0	5.4	1.7	1.5	2.5	3.1	0.6	1.6	2.9
110.0	5.1	1.4	2.2	3.4	2.9	0.4	1.8	3.4
115.0	5.3	1.3	1.3	2.5	2.9	0.4	1.7	3.0
120.0	5.1	1.8	1.4	2.6	2.9	0.3	1.9	3.2
125.0	4.9	1.4	1.2	2.4	2.6	0.3	1.7	3.2
130.0	5.0	1.8	1.6	2.5	2.6	0.2	1.7	2.9
135.0	4.1	2.0	1.6	2.6	1.6	0.4	1.9	3.2
140.0	3.6	2.0	1.6	2.3	1.4	0.4	2.1	3.2
145.0	3.8	2.3	1.6	2.7	1.4	0.3	2.0	3.2
150.0	4.0	2.3	1.7	2.7	1.1	0.3	1.9	3.2
155.0	3.7	2.1	1.7	2.4	1.0	0.4	2.0	2.9
160.0	3.6	2.1	1.7	2.6	0.9	0.6	2.1	2.9
165.0	4.3	1.9	1.6	2.8	1.2	0.4	1.7	2.7
170.0	4.3	1.8	1.6	2.8	1.4	0.3	1.8	2.7
175.0	3.7	2.1	1.7	3.2	0.9	0.6	1.9	2.9
180.0	3.3	1.9	1.8	2.6	0.9	0.6	1.9	3.1
185.0	3.8	1.4	1.4	2.7	1.1	0.8	1.8	2.9
190.0	4.3	1.4	1.7	2.6	2.1	1.6	2.1	3.1
195.0	4.4	1.2	1.7	2.7	1.7	1.4	2.2	3.3
200.0	4.3	1.2	1.8	2.7	1.7	1.1	1.9	2.8
205.0	3.9	1.2	1.7	2.8	1.2	0.9	1.9	3.1
210.0	3.9	1.2	1.8	2.7	1.1	0.5	1.8	2.9
215.0	3.9	1.3	1.4	2.6	1.1	0.5	1.9	2.9
220.0	4.0	1.2	1.4	2.4	0.9	0.9	2.2	2.9
225.0	3.4	1.2	1.4	2.5	0.8	0.7	1.9	3.0
230.0	3.5	1.4	1.7	2.6	1.1	0.5	1.8	3.1
235.0	3.5	2.2	1.7	2.6	1.2	0.7	2.3	3.7
240.0	3.7	2.3	1.8	2.8	1.2	0.5	1.9	3.3
245.0	3.8	2.4	1.6	2.7	1.3	0.5	2.2	3.3
250.0	3.9	2.2	1.6	2.8	1.3	0.5	2.2	3.4
255.0	4.0	2.4	1.7	2.5	1.7	0.5	2.3	3.4
260.0	3.8	2.6	1.9	2.9	1.8	0.5	2.3	3.5
265.0	4.2	2.4	1.8	2.8	1.8	0.6	2.3	3.5
270.0	3.6	2.5	1.5	2.8	1.9	0.7	2.3	3.7
275.0	3.8	2.9	2.0	2.9	1.8	0.7	2.4	3.6
280.0	3.6	2.7	1.8	2.4	1.8	0.7	2.6	3.9
285.0	4.2	2.6	1.6	2.8	1.9	0.8	2.3	3.9
290.0	3.8	2.3	1.9	2.7	1.9	0.8	2.3	3.8

AFSS RUN #13 DAY 2168

Test Time (min)	Temperature at SOFI Depth: 16.7mm (.66in)	14.0mm (.55in)	32.5mm (1.28in)
0.0	15.3 C	15.2 C	15.3 C
5.0	13.5	12.3	15.2
10.0	6.4	6.6	13.9
15.0	0.6	-7.0	11.8
20.0	-3.1	-7.0	9.2
25.0	-5.2	-7.9	6.9
30.0	-6.1	-9.9	6.1
35.0	-6.2	-10.4	6.1
40.0	-6.8	-10.4	5.8
45.0	-7.0	-11.0	5.9
50.0	-6.7	-11.4	6.1
55.0	-7.3	-11.7	5.6
60.0	-7.2	-12.7	5.7
65.0	-8.1	-12.2	5.3
70.0	-7.8	-13.2	5.7
75.0	-7.2	-13.3	5.7
80.0	-6.8	-13.8	5.8
85.0	-7.1	-13.9	6.3
90.0	-6.4	-14.2	5.9
95.0	-7.5	-15.0	5.6
100.0	-7.5	-14.8	5.4
105.0	-8.0	-15.1	5.2
110.0	-7.6	-15.1	5.2
115.0	-8.2	-15.6	4.8
120.0	-8.3	-14.8	5.0
125.0	-8.7	-15.6	5.1
130.0	-8.7	-15.7	5.1
135.0	-6.9	-15.4	4.9
140.0	-7.3	-16.3	5.1
145.0	-7.6	-16.7	5.5
150.0	-7.9	-16.4	5.1
155.0	-8.3	-16.5	5.3
160.0	-8.2	-16.7	5.3
165.0	-8.0	-16.8	5.3
170.0	-7.7	-16.9	5.2
175.0	-7.6	-17.5	6.0
180.0	-8.0	-16.7	5.3
185.0	-8.3	-16.9	5.3
190.0	-8.1	-17.2	5.5
195.0	-7.8	-17.3	5.5
200.0	-8.1	-16.4	5.6
205.0	-8.0	-17.4	5.4
210.0	-8.2	-15.8	5.4
215.0	-8.1	-17.2	5.6
220.0	-7.0	-17.2	5.4
225.0	-7.4	-17.8	5.5
230.0	-7.8	-17.7	5.3
235.0	-6.9	-17.6	5.8
240.0	-6.9	-17.7	5.7
245.0	-7.6	-17.4	5.4
250.0	-7.3	-16.7	5.3
255.0	-7.6	-17.2	5.4
260.0	-6.9	-17.4	5.7
265.0	-7.3	-17.4	5.8
270.0	-7.7	-17.3	5.7
275.0	-7.7	-17.5	5.9
280.0	-6.0	-16.7	5.7
285.0	-6.3	-16.8	5.8
290.0	-6.8	-17.6	5.8

AFSS RUN # 13 DAY 2168

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	15.1	14.4	14.8	14.4
	15.0	14.4	14.4	14.4
	15.0	14.4	14.4	14.4
	15.0	14.4	14.4	14.4
	15.0	14.4	14.4	14.4
	15.0	14.4	14.4	14.4
	15.0	14.4	14.4	14.4
	15.0	14.3	14.4	14.0
	15.0	14.4	13.8	14.1
	15.0	14.4	13.1	13.3

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.9	14.4	13.3	13.3
	14.9	14.4	13.3	13.2
	14.9	14.4	12.7	12.7
	14.5	14.8	12.2	12.7
	14.9	14.4	11.1	12.2
	14.9	14.8	10.0	10.5
	14.8	14.4	7.7	9.4
	14.8	15.0	4.4	5.5
	14.8	14.4	1.6	3.8
	14.8	14.4	2.2	4.4

AFSS RUN # 13 DAY 2168

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 14.7	14.4	-3.5	-6.3
14.7	14.4	-1.1	-0.6
14.7	14.4	-2.2	-1.6
14.7	14.3	-1.2	-1.8
14.7	14.4	-2.2	-3.6
14.7	14.4	-3.5	-4.7
14.7	14.4	-2.2	-3.0
14.7	14.0	-2.4	-3.4
14.7	13.8	-3.3	-2.7
14.6	14.4	-2.2	-1.8

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 14.7	14.4	5.0	5.5
14.7	14.4	4.0	3.8
14.7	14.4	3.8	1.7
14.6	14.8	5.0	1.6
14.6	14.5	2.7	2.7
14.6	14.4	1.6	1.6
14.6	14.4	1.8	3.2
14.6	14.4	1.6	2.7
14.5	14.4	1.1	3.3
14.4	14.4	1.6	3.3

AFSS RUN # 13 DAY 2168

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.7	14.4	-8.5	-8.8
	14.7	14.4	-3.1	-1.6
	14.7	14.4	-3.8	-2.2
	14.7	14.8	-5.0	-3.3
	14.7	14.4	-4.4	-4.4
	14.6	14.8	-3.3	-3.3
	14.4	14.5	-2.7	-3.3
	14.4	14.4	-3.5	-3.2
	14.4	14.5	-3.8	-2.2
	14.3	14.4	-2.3	-2.2

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.7	14.4	4.4	5.5
	14.7	14.4	5.0	3.3
	14.7	15.0	4.4	2.0
	14.7	14.7	5.0	1.6
	14.7	15.0	3.3	3.6
	14.6	15.0	1.7	2.2
	14.5	14.4	2.2	2.7
	14.4	14.4	1.5	2.0
	14.4	15.0	1.6	2.3
	14.3	14.4	1.6	3.3

AFSS RUN # 13 DAY 2168

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	14.7	15.0	-9.8	-10.6
	14.7	15.0	-3.7	-3.0
	14.7	14.7	-3.3	-3.4
	14.7	15.0	-4.3	-4.0
	14.6	14.6	-3.8	-5.8
	14.6	14.4	-3.8	-4.4
	14.4	14.4	-4.0	-3.3
	14.4	14.4	-4.6	-4.4
	14.3	13.8	-3.8	-2.2
	14.3	14.0	-3.3	-3.8

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	14.5	14.4	6.1	8.3
	14.5	14.5	5.2	5.5
	14.6	14.7	6.1	5.5
	14.5	14.4	6.6	5.0
	14.5	14.4	5.0	5.0
	14.4	14.3	3.3	3.8
	14.3	14.4	4.4	5.5
	14.3	14.4	4.4	5.5
	14.2	13.8	3.8	5.0
	14.2	13.8	4.4	5.5

AFSS RUN # 13 DAY 2168

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.4	14.4	-8.8	-8.3
	14.5	14.4	-2.2	-0.7
	14.5	14.4	-2.5	-1.2
	14.4	14.4	-2.7	-1.0
	14.4	13.8	-3.5	-2.7
	14.4	13.9	-2.7	-2.7
	14.3	13.8	-1.6	-1.6
	14.3	13.8	-1.1	-2.2
	14.2	13.8	-2.5	-0.5
	14.1	13.8	-0.5	-0.5

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.4	13.8	2.5	4.4
	14.4	14.4	1.6	2.5
	14.4	14.4	2.7	2.2
	14.4	14.4	3.3	2.6
	14.4	14.4	2.7	3.3
	14.4	14.4	1.6	2.6
	14.3	14.0	1.6	3.2
	14.2	14.4	1.6	2.6
	14.2	13.8	1.6	1.6
	14.1	13.8	1.6	2.7

AFSS RUN # 13 DAY 2168

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.4	14.4	-13.3	-10.5
	14.4	14.4	-7.2	-3.8
	14.4	14.0	-5.5	-4.4
	14.4	14.4	-5.8	-4.6
	14.4	14.4	-6.4	-5.5
	14.4	14.4	-5.0	-4.1
	14.3	14.1	-4.8	-4.4
	14.2	14.0	-5.3	-5.2
	14.2	14.2	-5.0	-4.0
	14.1	14.4	-3.8	-3.3

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.4	14.4	3.3	4.4
	14.4	14.4	2.7	2.2
	14.4	14.4	2.7	2.7
	14.4	14.4	2.3	1.8
	14.4	14.7	2.2	2.2
	14.3	14.1	1.0	1.6
	14.2	14.3	1.6	1.6
	14.2	14.4	1.2	1.6
	14.1	14.4	0.6	1.1
	14.0	14.7	1.6	2.7

AFSS RUN # 13 DAY 2168

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.5	14.4	-12.7	-11.5
	14.4	14.4	-5.8	-4.4
	14.4	14.4	-5.9	-4.4
	14.4	14.4	-4.7	-5.0
	14.4	14.4	-4.7	-5.5
	14.3	14.8	-5.5	-5.6
	14.2	14.4	-3.8	-4.5
	14.2	14.4	-4.4	-5.7
	14.2	13.8	-6.0	-4.8
	14.1	14.4	-2.2	-3.4

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.6	14.4	2.7	3.3
	14.5	14.4	2.5	2.6
	14.6	14.4	2.7	1.6
	14.5	15.2	3.5	2.7
	14.4	15.0	2.7	2.7
	14.4	14.4	1.1	1.9
	14.2	14.7	1.6	2.5
	14.2	14.4	1.4	1.8
	14.1	14.4	1.1	1.7
	14.1	15.4	1.1	1.6

AFSS RUN # 13 DAY 2168

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	14.6	15.0	-12.5	-8.3
	14.6	15.0	-6.1	-4.4
	14.6	15.3	-4.4	-3.0
	14.5	15.0	-5.5	-3.4
	14.5	14.4	-5.2	-6.1
	14.4	14.7	-4.2	-4.4
	14.3	14.6	-3.8	99.9
	14.3	14.6	-4.4	99.9
	14.2	14.7	5.5	99.9
	14.1	14.4	-2.2	-2.7

TEST TIME 225.0 MINS

SIDE B

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	14.6	15.0	4.7	3.6
	14.6	15.0	2.7	1.6
	14.6	15.0	4.5	2.2
	14.6	15.0	5.0	2.2
	14.5	14.4	3.2	2.7
	14.4	14.4	2.2	2.7
	14.3	15.0	1.7	1.6
	14.3	14.5	1.1	2.2
	14.2	14.3	1.6	4.1
	14.1	14.4	1.8	2.7

AFSS RUN # 13 DAY 2168

TEST TIME 240.0 MINS

SIDE A

	Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.7	15.2	-12.2	-9.8
	14.6	15.3	-6.1	-3.8
	14.7	15.0	-5.0	-3.5
	14.6	14.4	-5.8	-3.8
	14.6	15.5	-6.6	-5.5
	14.6	15.6	-3.4	-4.4
	14.4	16.1	-5.0	99.9
	14.4	15.6	-3.3	99.9
	14.3	15.5	-3.3	99.9
	14.1	13.8	-3.3	-1.1

TEST TIME 255.0 MINS

SIDE B

	Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.7	15.0	3.8	3.8
	14.7	15.0	3.7	2.7
	14.7	15.5	5.0	2.7
	14.7	14.6	3.5	2.0
	14.7	15.0	2.7	2.2
	14.6	14.6	1.6	2.6
	14.5	14.4	1.9	1.6
	14.4	14.7	1.1	2.5
	14.3	14.3	1.1	2.7
	14.1	14.4	1.6	2.6

AFSS RUN # 13 DAY 2168

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.8	14.8	-9.4	-9.4
	14.8	15.0	-5.7	-2.2
	14.8	14.4	-5.4	-3.3
	14.8	15.1	-5.5	-4.6
	14.8	15.0	-6.1	-4.6
	14.7	15.0	-5.6	-4.5
	14.6	14.4	-3.8	-1.6
	14.5	14.5	-4.6	99.9
	14.4	14.5	-4.4	99.9
	14.2	14.4	-3.2	-2.2

TEST TIME 285.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.9	15.0	3.3	3.8
	14.9	14.7	2.7	1.6
	14.9	15.5	3.8	2.7
	14.8	15.3	3.3	2.7
	14.8	15.5	2.7	2.7
	14.7	15.5	1.7	2.5
	14.6	15.5	2.6	2.7
	14.6	15.5	2.0	2.7
	14.4	14.8	1.1	2.7
	14.3	15.5	1.6	2.7

AFSS RUN #14 DAY 2173

Test Time (min)	4 Meter Dewcell Dew point	4 Meter Dewcell Temp	1 Meter Dewcell Dew point	1 Meter Dewcell Temp	Radiometers mW/cm2 West	Radiometers mW/cm2 East
0.0	11.8 C	13.0 C	11.2 C	13.2 C	0.000	-0.230
5.0	11.7	13.0	11.1	13.1	0.000	0.000
10.0	11.8	12.9	11.4	13.3	0.230	0.690
15.0	11.8	12.8	11.4	13.1	1.149	1.839
20.0	11.9	12.7	11.4	12.3	2.529	4.368
25.0	11.8	12.5	11.2	12.3	4.828	5.977
30.0	11.8	12.4	11.2	12.3	5.517	5.977
35.0	11.7	12.4	11.1	12.6	5.517	5.747
40.0	11.6	12.3	11.2	12.5	5.517	5.517
45.0	11.7	12.3	11.1	12.4	5.517	5.287
50.0	11.7	12.4	11.1	12.5	5.517	5.057
55.0	11.5	12.4	10.9	12.5	5.517	3.908
60.0	11.5	12.4	10.9	12.6	5.287	3.908
65.0	11.6	12.4	10.9	12.6	5.287	3.908
70.0	11.5	12.4	10.9	12.5	5.287	3.908
75.0	11.5	12.2	10.8	12.4	5.287	3.678
80.0	11.5	12.0	10.9	12.3	5.057	3.678
85.0	11.5	12.2	11.0	12.3	5.287	3.908
90.0	11.6	12.3	11.0	12.4	5.287	3.908
95.0	11.6	12.3	11.0	12.6	5.287	3.908
100.0	11.6	12.5	11.0	12.6	5.287	3.908
105.0	11.6	12.4	11.0	12.7	5.287	3.908
110.0	11.6	12.3	11.0	12.5	5.057	3.908
115.0	11.5	12.0	11.0	12.5	5.057	3.908
120.0	11.6	12.0	11.1	12.5	5.057	3.908
125.0	11.7	12.0	11.1	12.5	5.057	3.908
130.0	11.6	11.9	11.1	12.5	5.057	3.908
135.0	11.6	11.9	11.1	12.5	5.057	3.908
140.0	11.6	12.0	11.0	12.5	5.057	3.908
145.0	11.5	12.2	11.0	12.5	5.057	3.678
150.0	11.6	12.4	10.9	12.4	5.057	3.678
155.0	11.6	12.4	11.0	12.4	5.057	3.678
160.0	11.6	12.3	11.0	12.4	4.828	3.908
165.0	11.6	12.5	11.0	12.5	5.057	4.138
170.0	11.7	12.6	11.1	12.6	5.057	4.138
175.0	11.8	12.6	11.1	12.6	5.057	4.368
180.0	11.8	12.7	11.2	12.7	4.828	4.368
185.0	11.9	12.9	11.2	12.9	5.057	4.368
190.0	11.9	13.2	11.2	12.9	5.057	4.368
195.0	11.9	13.3	11.3	13.2	5.057	4.598
200.0	11.9	13.3	11.2	13.1	5.057	4.828
205.0	11.8	13.4	11.3	13.3	5.057	4.828
210.0	11.8	13.4	11.2	13.2	5.057	4.828
215.0	11.9	13.6	11.3	13.3	5.057	4.828
220.0	11.8	13.8	11.3	13.5	5.287	5.057
225.0	11.9	14.2	11.3	13.5	5.287	5.287
230.0	11.9	14.2	11.3	13.6	5.287	5.287
235.0	11.9	14.6	11.3	13.8	5.287	5.517
240.0	12.0	14.8	11.4	13.8	5.517	5.977
245.0	12.1	14.9	11.3	13.9	5.517	6.667
250.0	12.1	15.3	11.4	14.1	5.517	7.586
255.0	12.0	15.5	11.4	14.3	5.747	8.046
260.0	12.2	15.6	11.5	14.4	5.977	8.276
265.0	12.3	16.2	11.7	14.7	5.977	8.506
270.0	12.6	16.5	11.7	14.9	5.977	8.736
275.0	12.7	17.1	11.8	15.1	5.977	8.506
280.0	12.8	17.7	11.8	15.4	5.977	8.506
285.0	12.9	18.1	11.9	15.6	6.207	8.276
290.0	13.3	18.3	12.0	15.7	6.207	8.046

AFSS RUN #14 DAY 2173

Test Time (min)	Ceiling East	Ceiling West	Floor East	Floor West	Plastic Walls N	Plastic Walls S	Plastic Walls E	Plastic Walls W
0.0	10.60	12.20	13.60	13.50	12.30	12.70	12.60	12.60
5.0	10.6	12.1	13.6	13.4	12.2	12.7	12.6	12.6
10.0	10.6	12.1	13.6	13.4	12.2	12.7	12.6	12.6
15.0	10.4	12.1	13.6	12.9	12.2	12.6	12.2	12.6
20.0	10.4	11.9	13.4	12.6	11.9	12.2	11.8	12.5
25.0	10.4	11.9	13.4	12.3	11.7	12.0	11.7	12.3
30.0	10.6	11.9	13.4	12.6	11.8	12.1	11.8	12.3
35.0	10.7	11.8	13.3	12.5	11.7	12.2	12.1	12.1
40.0	10.7	11.8	13.3	12.4	11.7	12.2	11.8	12.2
45.0	10.9	11.8	13.3	12.5	11.8	12.1	11.8	12.2
50.0	11.0	11.8	13.2	12.3	11.7	12.2	12.1	12.2
55.0	11.1	11.8	13.2	12.6	11.7	12.2	12.2	12.2
60.0	11.3	11.8	13.2	12.7	11.7	12.2	12.2	12.2
65.0	11.7	11.9	13.2	12.7	11.7	12.2	12.2	12.2
70.0	11.9	12.1	13.2	12.4	11.8	12.2	12.2	12.2
75.0	12.1	12.1	13.1	12.3	11.7	12.1	12.2	12.0
80.0	12.2	12.1	13.1	12.5	11.7	12.1	12.1	12.0
85.0	12.2	12.2	13.1	12.3	11.7	12.1	12.1	12.1
90.0	12.1	12.2	13.1	12.3	11.8	12.2	12.1	12.1
95.0	12.6	12.3	13.1	12.5	11.9	12.3	12.2	12.2
100.0	12.7	12.4	13.0	12.5	12.0	12.3	12.3	12.3
105.0	12.8	12.4	12.9	11.8	11.9	12.3	12.4	12.2
110.0	12.7	12.4	12.9	12.1	11.9	12.2	12.3	12.2
115.0	12.8	12.4	12.8	12.6	11.9	12.2	12.3	12.1
120.0	12.7	12.4	12.8	12.4	11.9	12.3	12.3	12.1
125.0	12.7	12.4	12.7	12.2	11.9	12.2	12.3	12.1
130.0	12.7	12.5	12.7	12.7	11.8	12.2	12.2	12.1
135.0	12.6	12.6	12.7	12.0	11.8	12.1	12.2	12.2
140.0	12.6	12.6	12.7	12.1	11.8	12.2	12.3	12.2
145.0	13.2	12.6	12.7	12.1	11.8	12.2	12.3	12.2
150.0	13.8	12.8	12.6	12.2	11.8	12.2	12.3	12.1
155.0	14.2	13.1	12.6	12.5	11.8	12.1	12.3	12.1
160.0	14.4	13.4	12.6	12.4	11.9	12.2	12.2	12.2
165.0	14.9	13.7	12.6	12.3	12.0	12.3	12.4	12.3
170.0	15.4	13.9	12.6	12.4	12.1	12.4	12.6	12.4
175.0	16.5	14.2	12.6	12.4	12.1	12.4	12.7	12.4
180.0	16.9	14.6	12.6	12.6	12.2	12.4	12.8	12.5
185.0	16.9	14.8	12.6	12.6	12.3	12.7	12.8	12.7
190.0	17.8	15.1	12.6	12.7	12.5	12.9	12.9	12.9
195.0	19.6	15.4	12.6	12.5	12.6	12.9	13.1	12.9
200.0	20.2	15.7	12.6	12.8	12.6	12.9	13.2	13.0
205.0	20.5	15.9	12.6	12.8	12.7	12.9	13.2	13.1
210.0	21.4	16.2	12.6	12.9	12.8	13.0	13.3	13.1
215.0	23.5	16.8	12.6	12.8	12.8	13.1	13.5	13.2
220.0	24.0	17.4	12.6	12.8	13.0	13.3	13.6	13.4
225.0	24.9	18.1	12.7	12.9	13.2	13.4	13.8	13.6
230.0	22.7	17.9	12.7	12.9	13.3	13.6	13.9	13.7
235.0	24.2	17.8	12.7	13.1	13.4	13.7	14.1	13.8
240.0	29.8	18.8	12.7	13.2	13.4	13.7	14.2	13.9
245.0	28.2	19.6	12.7	13.1	13.5	13.8	14.4	14.2
250.0	35.2	20.7	12.8	13.3	13.7	14.2	14.8	14.4
255.0	38.5	22.1	12.8	13.4	13.9	14.3	15.2	14.7
260.0	38.7	23.1	12.9	13.4	14.2	14.6	15.6	14.9
265.0	38.7	24.2	12.9	13.6	14.5	14.9	15.9	15.2
270.0	38.6	24.9	13.1	13.4	14.8	15.1	16.1	15.5
275.0	39.6	25.4	13.1	13.6	15.1	15.4	16.6	15.8
280.0	40.1	25.8	13.2	13.7	15.4	15.7	16.9	16.1
285.0	41.4	26.5	13.2	13.7	15.7	15.9	17.0	16.3
290.0	42.3	27.2	13.3	13.7	15.9	16.1	17.3	16.6

AFSS RUN #14 DAY 2173

Test Time (min)	Thermocouple Readout by Position SIDE A							
	1	2	3	4	5	6	7	8
0.0	13.3	13.3	13.3	13.1	12.6	13.2	13.2	12.9
5.0	13.2	13.1	12.9	12.7	12.7	13.1	13.1	12.3
10.0	11.9	11.2	8.8	5.3	11.4	11.1	10.8	4.6
15.0	9.9	8.1	2.7	-3.3	9.7	7.5	5.2	-1.1
20.0	6.8	3.1	-3.6	-2.6	7.2	1.4	0.5	0.0
25.0	1.4	-4.4	-4.4	-3.4	3.6	-4.4	-0.2	-0.4
30.0	-4.7	-5.3	-4.4	-3.4	-0.7	-4.8	0.0	-1.1
35.0	-5.4	-4.6	-3.5	-2.9	-1.1	-4.8	-0.1	-0.7
40.0	-4.5	-5.1	-3.7	-3.0	-1.3	-5.0	0.0	-1.2
45.0	-5.2	-5.6	-3.8	-2.6	-0.6	-3.9	0.0	-0.9
50.0	-4.1	-5.7	-4.5	-2.9	-0.4	-4.6	0.3	-1.2
55.0	-2.8	-2.5	-4.0	-3.2	-1.8	-5.4	-0.4	-1.1
60.0	-3.0	-2.1	-0.9	-1.1	-2.0	-5.3	-0.1	-1.3
65.0	-2.0	-2.8	-0.9	-1.1	-1.3	-5.5	-0.8	-1.7
70.0	-1.1	-2.9	-0.2	-1.2	-1.7	-5.3	-0.1	-1.4
75.0	-1.7	-2.3	-1.0	-1.1	-1.4	-6.0	-0.6	-1.3
80.0	-1.7	-1.7	-2.1	-1.2	-1.6	-6.0	-0.4	-1.5
85.0	-2.6	-1.9	-1.8	-1.6	-1.4	-5.9	-0.3	-1.3
90.0	-4.1	-2.7	-0.9	-0.9	-1.6	-5.8	-0.4	-1.4
95.0	-4.3	-3.9	-0.5	-0.8	-2.3	-5.9	-0.6	-1.5
100.0	-4.4	-4.5	-1.8	-1.2	-1.5	-5.1	-0.3	-1.6
105.0	-1.3	-4.6	-1.9	-2.1	-1.8	-6.3	-0.1	-1.6
110.0	-3.8	-3.9	-1.9	-1.4	0.1	-6.3	-0.9	-1.7
115.0	-2.6	-3.3	-0.4	-1.7	-0.8	-6.2	-0.6	-1.9
120.0	-3.4	-0.8	-1.4	-0.4	-1.0	-5.7	-0.6	-1.8
125.0	-3.8	-3.3	-0.5	-0.4	-1.4	-6.2	-0.7	-1.7
130.0	-0.7	-4.7	-1.3	-0.6	-1.6	-6.5	-0.8	-1.8
135.0	-2.7	-3.9	-0.7	-0.5	-0.1	-6.7	-1.1	-2.2
140.0	-1.6	-5.3	-0.7	-0.6	0.1	-6.5	-0.8	-2.0
145.0	-2.4	-5.6	-0.4	-0.5	-0.7	-6.2	-0.7	-2.0
150.0	-2.3	-5.6	-0.4	-0.6	-1.0	-5.2	-0.4	-2.1
155.0	-3.7	-6.4	-1.9	-0.6	-1.1	-0.3	0.6	-2.1
160.0	-1.8	-1.2	-1.1	-0.6	-0.8	-2.8	0.2	-2.1
165.0	-0.9	-2.1	-1.8	-0.7	-1.1	-3.7	0.1	-2.0
170.0	-2.9	-2.6	-2.2	-0.7	-1.2	-3.7	-0.1	-1.8
175.0	-1.9	-2.6	-2.6	-1.4	-0.8	-4.2	-0.3	-1.9
180.0	-2.6	-1.4	-2.3	-2.2	-0.7	-4.1	-0.1	-1.7
185.0	-0.6	-0.7	-0.4	-2.0	-0.8	-4.4	-0.2	-1.6
190.0	-1.6	-3.0	-0.6	-1.2	-0.9	-3.9	0.0	-1.6
195.0	-1.8	-3.3	-1.3	-1.1	-0.7	-4.0	0.1	-1.7
200.0	-2.0	-4.0	-1.3	-1.3	-0.6	-4.3	0.0	-1.6
205.0	-1.1	-3.8	-1.6	-0.6	-0.6	-4.1	0.1	-1.6
210.0	-1.6	-3.6	-2.1	-0.6	-0.5	-4.2	0.4	-1.2
215.0	-2.4	-1.1	-1.0	-0.7	-0.3	-4.1	0.4	-1.3
220.0	-2.5	-0.7	-0.6	-0.5	-0.2	-4.2	0.3	-1.4
225.0	-2.5	-0.8	-0.6	-0.7	-0.2	-3.9	0.4	-1.5
230.0	-2.2	-1.4	-0.5	-0.6	0.2	-3.4	0.7	-1.2
235.0	-0.6	-2.1	-0.5	-0.6	0.8	-3.3	0.8	-1.2
240.0	-0.9	-1.9	-0.5	-0.6	0.9	-2.8	0.8	-1.0
245.0	-1.1	-2.4	-0.8	-0.6	0.8	-1.3	1.0	-0.9
250.0	-1.4	-1.6	-0.6	-0.6	0.9	-1.7	1.3	-0.7
255.0	-1.2	-0.9	-0.5	-0.6	1.1	-1.5	1.8	-0.2
260.0	-0.8	-1.0	-0.7	-0.6	1.5	-1.3	1.9	-0.1
265.0	-0.7	-0.7	-0.8	-0.6	1.6	-1.3	2.0	0.4
270.0	-0.6	-0.8	-0.9	-0.6	2.1	-1.0	2.3	0.9
275.0	-0.4	-0.8	-0.5	-0.6	2.1	-0.4	2.5	1.3
280.0	-0.5	-0.8	-0.7	-0.6	2.4	-0.3	3.1	1.6
285.0	-0.6	-0.8	-0.7	-0.5	2.7	0.1	3.5	1.8
290.0	-0.5	-0.8	-0.7	-0.5	2.8	0.7	3.7	2.1

AFSS RUN #14 DAY 2173

Test Time (min)	Thermocouple Readout by Position SIDE B 11	12	13	14	15	16	17	18
0.0	13.2	13.3	13.4	13.3	13.2	13.3	13.4	13.4
5.0	13.2	13.2	13.2	13.0	13.2	13.2	13.2	13.2
10.0	12.6	11.9	10.8	8.3	12.7	12.3	11.1	9.7
15.0	11.2	9.2	6.1	1.9	11.6	10.4	7.5	3.4
20.0	9.4	5.1	1.1	1.8	9.9	7.5	1.8	2.1
25.0	6.3	-1.2	0.0	0.6	7.4	1.3	0.1	1.0
30.0	1.7	-1.9	-0.1	0.9	2.2	-1.2	-0.3	1.0
35.0	0.1	-2.4	0.0	0.8	-0.3	-1.4	-0.1	0.9
40.0	0.7	-2.7	-0.2	0.4	-0.2	-1.3	-0.4	0.7
45.0	0.7	-2.2	-0.3	0.5	-1.0	-1.6	-0.3	0.8
50.0	0.2	-2.4	-0.1	1.0	-1.8	-1.7	-0.4	1.1
55.0	1.8	-2.4	0.0	0.8	-1.6	-1.8	-0.3	0.7
60.0	2.2	-1.7	0.3	1.3	-0.8	-1.2	-0.1	0.5
65.0	2.2	-1.7	0.0	0.8	-0.4	-1.5	-0.2	0.4
70.0	2.1	-1.4	-0.2	0.4	-0.8	-1.6	-0.3	0.4
75.0	1.7	-1.3	-0.2	0.8	-0.8	-1.7	-0.3	0.4
80.0	1.6	-2.0	-0.3	0.5	-0.8	-1.7	-0.5	0.3
85.0	1.7	-1.8	-0.1	1.2	-0.8	-1.4	-0.2	0.4
90.0	1.6	-1.7	0.4	1.3	-0.8	-1.4	0.1	0.6
95.0	1.4	-2.1	0.4	0.9	-1.3	-1.7	-0.3	0.5
100.0	1.2	-2.0	0.3	0.9	-1.4	-1.2	-0.1	0.4
105.0	1.6	-0.5	0.2	0.6	-1.2	-0.9	-0.1	0.6
110.0	1.8	-0.3	0.6	1.6	-1.1	-1.1	-0.2	0.6
115.0	1.5	-0.2	0.4	1.6	-0.8	-0.2	0.0	0.4
120.0	1.4	-0.9	0.3	1.2	-0.6	-0.6	-0.3	0.5
125.0	1.4	-0.6	0.0	1.0	-0.5	-1.1	-0.3	0.5
130.0	1.6	-1.6	0.4	1.7	-0.6	-0.6	-0.1	0.6
135.0	1.7	-0.9	0.0	1.3	-0.4	-1.1	-0.3	0.4
140.0	1.6	-1.2	-0.2	1.1	-0.6	-0.2	-0.1	0.6
145.0	1.6	-0.8	-0.7	1.2	-0.9	-0.3	-0.3	0.5
150.0	1.8	-0.9	-0.7	1.4	-0.7	-0.3	0.2	0.6
155.0	1.5	-1.0	-0.7	1.5	-0.7	-0.2	0.0	0.6
160.0	2.0	-0.3	-0.3	1.2	-0.1	-0.3	-0.2	0.6
165.0	1.8	-0.6	-0.2	1.0	-0.2	-0.6	-0.3	0.7
170.0	1.9	-0.4	0.2	1.1	-0.4	-0.3	0.0	0.7
175.0	2.0	-0.7	0.3	1.3	0.1	-0.4	0.1	1.0
180.0	2.2	-0.4	0.0	1.1	0.2	-0.4	0.0	0.7
185.0	2.3	-0.4	0.2	1.1	0.5	-0.4	0.1	0.7
190.0	2.3	-0.4	0.4	1.9	0.0	-0.4	0.2	1.0
195.0	2.2	-0.4	0.1	1.4	0.3	-0.3	0.2	0.7
200.0	2.3	-0.6	0.0	1.6	1.0	-0.3	0.0	1.0
205.0	2.3	-0.5	0.0	1.6	0.8	-0.4	0.0	1.1
210.0	2.4	-0.4	-0.2	1.4	0.9	-0.6	0.3	0.9
215.0	2.7	-0.6	-0.3	1.3	0.9	-0.7	0.3	0.8
220.0	2.8	-0.6	0.3	1.4	0.9	-0.3	0.3	0.9
225.0	2.9	-0.8	0.0	1.2	1.0	-0.2	0.2	0.9
230.0	3.2	-0.6	0.0	1.3	1.2	-0.2	0.4	1.0
235.0	3.4	-0.7	0.1	1.3	1.2	-0.2	0.5	0.9
240.0	3.4	-0.6	0.1	1.4	1.3	-0.2	0.6	0.9
245.0	3.8	-0.4	0.2	1.5	1.4	-0.2	0.7	1.1
250.0	3.8	-0.6	0.2	1.6	1.4	-0.1	0.7	1.1
255.0	4.2	-0.5	0.4	1.6	1.7	-0.1	0.8	1.4
260.0	4.8	-0.5	0.6	2.1	1.9	0.0	1.0	1.5
265.0	5.4	-0.5	0.6	1.8	2.1	0.0	1.1	1.7
270.0	5.7	-0.4	0.8	1.7	2.4	0.1	1.4	1.8
275.0	6.0	-0.3	1.1	1.9	2.8	0.2	1.7	1.8
280.0	6.6	-0.3	1.7	1.9	2.8	0.3	1.8	2.2
285.0	6.6	-0.2	2.9	2.1	3.1	0.3	2.2	2.4
290.0	6.8	0.0	3.4	2.5	3.3	0.4	2.3	2.7

AFSS RUN #14 DAY 2173

Test Time (min)	Temperature at SOFI Depth: 16.7mm (.66in)	14.0mm (.55in)	32.5mm (1.28in)
0.0	13.1 C	13.1 C	12.9 C
5.0	10.3	8.8	12.8
10.0	-2.3	-0.9	10.9
15.0	-8.2	-9.6	7.6
20.0	-8.0	-10.4	3.7
25.0	-8.6	-11.7	2.3
30.0	-8.4	-11.2	2.1
35.0	-8.7	-10.9	2.1
40.0	-9.5	-11.9	1.9
45.0	-9.6	-12.1	2.2
50.0	-9.6	-11.9	2.1
55.0	-9.4	-13.3	2.3
60.0	-6.7	-2.2	2.0
65.0	-8.3	-5.0	1.7
70.0	-9.2	-0.9	1.8
75.0	-6.1	-3.1	1.8
80.0	-1.5	-5.8	2.3
85.0	-5.0	-8.7	1.9
90.0	-6.4	-9.1	2.1
95.0	-7.0	-6.5	1.7
100.0	-7.4	-8.0	1.7
105.0	-7.7	-8.4	1.8
110.0	-7.1	-7.2	2.4
115.0	-7.8	-7.3	1.8
120.0	-8.0	-1.1	1.8
125.0	-7.9	-1.7	2.1
130.0	-8.2	-1.8	2.4
135.0	-8.7	-2.3	1.9
140.0	-8.4	-1.4	2.3
145.0	-9.0	-2.6	1.5
150.0	-8.9	-3.8	1.9
155.0	-9.4	-5.2	1.6
160.0	-9.6	-7.0	1.9
165.0	-1.4	-8.1	2.2
170.0	-1.5	-8.3	2.0
175.0	-4.1	-7.8	2.0
180.0	-3.9	-6.0	2.9
185.0	-3.9	-5.0	2.7
190.0	-4.8	-3.8	2.9
195.0	-5.6	-6.3	2.3
200.0	-5.8	-7.7	2.6
205.0	-5.9	-8.2	2.8
210.0	-6.1	-1.7	2.7
215.0	-6.3	-4.8	2.8
220.0	-6.3	-6.6	2.6
225.0	-6.3	-6.7	2.9
230.0	-3.6	-5.4	3.4
235.0	-5.4	-5.0	3.0
240.0	-5.2	-3.3	3.2
245.0	-5.3	-1.7	3.2
250.0	-5.4	-3.5	3.6
255.0	-5.1	-4.3	3.6
260.0	-4.5	-5.1	4.0
265.0	-4.4	-4.6	4.0
270.0	-4.2	-4.7	4.5
275.0	-4.1	-4.2	4.7
280.0	-3.7	-3.5	5.1
285.0	-3.7	-2.7	5.1
290.0	-3.3	-1.4	5.3

AFSS RUN # 14 DAY 2173

TEST TIME 0.0 MINS

SIDE A

Emissivity Panel			SOFI Panel Pyrometer Data	
Thermocouple		Pyrometer	Left	Right
TOP	12.9	13.0	13.6	13.7
	12.8	13.3	14.3	13.3
	12.7	13.5	13.6	13.6
	12.6	13.0	13.8	13.7
	12.6	13.2	14.3	13.8
	12.6	13.3	13.8	14.3
	12.5	13.3	13.8	14.4
	12.6	13.3	13.8	13.8
	12.6	13.3	13.3	13.3
	12.5	13.3	11.8	12.3

TEST TIME 15.0 MINS

SIDE B

Emissivity Panel			SOFI Panel Pyrometer Data	
Thermocouple		Pyrometer	Left	Right
TOP	12.6	13.1	11.1	12.2
	12.5	13.5	11.2	11.2
	12.4	13.2	10.5	11.1
	12.4	13.2	10.0	10.3
	12.5	13.3	4.7	99.5
	12.5	13.2	8.3	8.7
	12.4	13.0	5.0	7.0
	12.5	13.3	1.6	2.5
	12.4	13.1	-1.6	0.5
	12.3	13.1	-1.3	0.0

AFSS RUN # 14 DAY 2173

TEST TIME 30.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 12.3	12.7	-13.8	-13.0
12.2	12.6	-7.7	-5.5
12.2	12.7	-7.2	-7.2
12.1	12.7	-8.8	-8.4
12.2	12.7	-8.3	-9.4
12.2	12.7	-8.5	-7.3
12.1	12.7	-7.2	-7.5
12.1	12.7	-8.7	-8.3
12.1	12.7	-8.0	-6.7
11.9	12.7	-6.1	-6.1

TEST TIME 45.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 12.2	13.2	-2.2	-1.6
12.2	12.8	-2.2	-2.2
12.1	12.6	-2.2	-3.6
12.0	12.7	-2.2	-2.2
12.1	12.7	-2.2	-1.6
12.0	12.7	-2.2	-1.6
12.0	12.7	-1.6	-1.6
12.0	12.7	-2.2	-1.6
11.9	12.5	-2.2	-1.7
11.8	12.2	-2.2	-0.8

AFSS RUN # 14 DAY 2173

TEST TIME 60.0 MINS

SIDE A

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	12.2	12.7	-5.6	-11.8
	12.2	12.7	-2.7	-6.1
	12.1	12.6	-2.2	-7.2
	12.0	12.7	-1.8	-5.5
	12.1	12.6	-2.7	-8.8
	12.1	12.7	-2.2	-6.1
	12.0	12.7	-2.1	-5.5
	12.1	12.7	-2.2	-7.3
	12.0	12.7	-2.2	-5.5
	11.8	12.2	-2.7	-3.0

TEST TIME 75.0 MINS

SIDE B

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	12.1	12.7	0.4	0.5
	12.1	12.7	-0.5	-1.3
	12.1	12.5	-0.5	-1.5
	12.0	12.7	-0.7	-1.3
	12.1	12.7	-2.2	-1.1
	12.1	12.7	-1.8	-1.6
	12.0	12.7	-2.2	-1.1
	12.1	12.7	-1.6	-0.7
	12.0	12.7	-1.8	-0.5
	11.8	12.7	-1.6	-0.5

AFSS RUN # 14 DAY 2173

TEST TIME 90.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SCFI Panel Pyrometer Data Left	SCFI Panel Pyrometer Data Right
TOP 12.1	12.7	-3.8	-11.1
12.1	12.2	-2.7	-7.0
12.0	12.7	-2.7	-7.7
11.9	12.7	-1.6	-6.9
12.1	12.7	-2.3	-6.6
12.1	12.7	-2.2	-6.1
12.0	12.8	-1.6	-6.2
12.1	12.8	-2.7	-6.5
11.9	12.2	-3.5	-5.5
11.8	12.7	-2.2	-5.0

TEST TIME 105.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SCFI Panel Pyrometer Data Left	SCFI Panel Pyrometer Data Right
TOP 12.2	12.7	0.0	0.0
12.2	12.7	-0.5	-1.3
12.2	12.7	-1.0	-1.0
12.1	12.7	-1.1	-1.1
12.2	12.7	-1.1	-0.2
12.2	12.7	-1.1	-0.9
12.1	12.7	-1.1	-1.1
12.2	12.7	-1.5	-1.1
12.1	12.7	-1.5	-1.1
11.8	12.7	-1.6	-1.1

AFSS RUN # 14 DAY 2173

TEST TIME 120.0 MINS

SIDE A

Emissivity Panel | SOFI Panel Pyrometer Data

Thermocouple		Pyrometer	Left	Right
TOP	12.2	12.7	-4.1	-10.0
	12.2	12.7	-4.4	-6.6
	12.2	12.7	-3.5	-7.7
	12.2	12.7	-2.7	-7.2
	12.2	12.7	-3.1	-6.8
	12.2	12.7	-2.2	-7.2
	12.2	12.7	-2.7	-5.5
	12.2	12.7	-3.3	-7.7
	12.2	12.7	-2.2	-6.0
	11.9	12.7	-1.8	-5.5

TEST TIME 135.0 MINS

SIDE B

Emissivity Panel | SOFI Panel Pyrometer Data

Thermocouple		Pyrometer	Left	Right
TOP	12.2	12.7	0.9	1.1
	12.2	12.7	-0.5	-1.5
	12.2	12.7	-0.5	-1.3
	12.2	12.7	-1.1	-1.1
	12.2	12.7	-1.3	-0.5
	12.2	12.7	-1.3	-1.3
	12.2	12.7	-1.6	-1.1
	12.2	12.7	-1.6	-1.1
	12.1	12.7	-1.6	-1.1
	11.9	12.7	-1.6	-0.6

AFSS RUN # 14 DAY 2173

TEST TIME 150.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	12.2	12.7	-5.0	-7.7
	12.2	12.2	-4.2	-5.4
	12.2	12.7	-4.4	-5.7
	12.2	12.7	-5.0	-5.5
	12.2	12.7	-4.7	-6.1
	12.2	12.7	-4.4	-5.0
	12.2	12.7	-3.8	-4.4
	12.2	12.7	-4.4	-6.5
	12.1	12.3	-4.0	-5.7
	11.9	12.2	-3.2	-5.5

TEST TIME 165.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	12.3	12.7	1.1	0.0
	12.3	12.7	-0.1	-1.6
	12.3	12.7	-1.1	-1.9
	12.3	12.7	-2.2	-2.2
	12.3	12.7	-2.2	-1.0
	12.3	12.7	-1.5	-1.3
	12.2	12.7	-1.2	-1.6
	12.2	12.7	-1.1	-1.6
	12.1	12.7	-1.1	-1.3
	11.9	12.5	-1.1	-1.1

AFSS RUN # 14 DAY 2173

TEST TIME 180.0 MINS

SIDE A

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	12.4	12.5	-3.0	-7.7
	12.5	12.7	-3.3	-4.6
	12.5	12.8	-3.7	-5.5
	12.5	12.7	-3.5	-5.8
	12.5	13.3	-2.8	-6.1
	12.5	13.3	-3.2	-6.6
	12.4	12.7	-3.3	-6.1
	12.4	13.3	-3.3	-6.6
	12.3	13.0	-3.3	-5.2
	12.1	12.7	-3.4	-4.5

TEST TIME 195.0 MINS

SIDE B

Emissivity Panel Thermocouple		Pyrometer	SOFI Panel Pyrometer Data Left	Right
TOP	12.8	13.3	1.6	1.6
	12.8	13.7	1.2	0.5
	12.8	13.8	0.0	-0.8
	12.8	13.8	-0.3	-0.5
	12.8	13.8	-1.0	-0.5
	12.8	13.8	-0.3	-1.1
	12.8	13.4	-1.0	-0.8
	12.7	13.8	-1.1	-1.1
	12.6	13.7	-1.6	-1.0
	12.3	13.3	-0.9	0.0

AD-A121 330 AN EXPERIMENTAL INVESTIGATION OF POTENTIAL ICING OF THE SPACE SHUTTLE EXT..(U) COLD REGIONS RESEARCH AND ENGINEERING LAB HANOVER NH M G FERRICK ET AL. SEP 82 4/4

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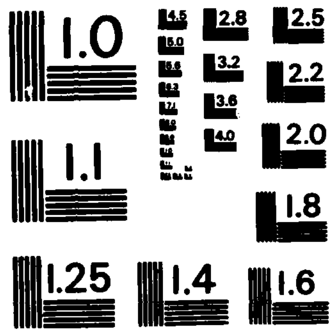
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1.1
1.8
1.25
1.4
1.6

AFSS RUN # 14 DAY 2173

TEST TIME 210.0 MINS

SIDE A

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 13.2	13.6	-2.7	-6.6
13.2	13.8	-2.4	-4.3
13.1	13.8	-2.2	-6.1
13.1	13.8	-2.2	-6.1
13.1	13.8	-2.2	-6.6
13.1	13.8	-2.3	-6.1
13.0	13.8	-2.7	-5.5
13.0	13.8	-2.2	-6.5
12.8	13.6	-2.2	-3.6
12.6	13.3	-2.6	-4.4

TEST TIME 225.0 MINS

SIDE B

Emissivity Panel Thermocouple	Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP 13.7	14.4	2.7	1.2
13.7	14.3	1.9	0.5
13.6	14.4	0.6	0.5
13.5	14.4	0.5	0.3
13.5	14.4	-0.5	0.6
13.4	14.4	-0.5	0.0
13.3	14.1	-0.5	0.0
13.3	13.8	-0.5	0.0
13.1	13.8	-1.6	-0.7
12.8	13.3	-0.7	0.3

AFSS RUN # 14 DAY 2173

TEST TIME 240.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	14.3	14.4	-1.6	-6.1
	14.2	14.6	-2.7	-2.0
	14.1	14.6	-1.8	-2.7
	14.0	14.6	-2.2	-3.3
	13.9	14.2	-2.2	-5.0
	13.8	14.4	-2.3	-4.4
	13.7	14.4	-2.2	-4.5
	13.6	14.4	-2.2	-4.3
	13.4	14.4	-2.3	-3.3
	13.2	14.3	-2.4	-3.8

TEST TIME 255.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	15.2	16.1	4.4	4.4
	15.0	16.1	3.3	1.6
	14.8	15.5	1.1	1.1
	14.7	16.1	1.6	0.5
	14.6	16.1	0.3	0.5
	14.4	15.5	0.0	0.2
	14.2	15.3	0.2	0.3
	14.1	15.5	0.0	0.0
	13.9	14.4	-0.5	0.3
	13.6	14.4	-0.5	-0.2

AFSS RUN # 14 DAY 2173

TEST TIME 270.0 MINS

SIDE A

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	16.5	17.7	-1.1	-2.3
	16.2	17.7	-1.6	-0.1
	15.8	17.7	-1.0	-1.1
	15.6	16.7	-1.4	-2.0
	15.4	17.2	-1.1	-2.2
	15.2	16.6	-1.3	-1.2
	15.1	16.1	-1.8	-1.7
	14.8	16.1	-2.1	-2.2
	14.7	15.5	-2.1	-2.1
	14.3	15.2	-1.9	-1.6

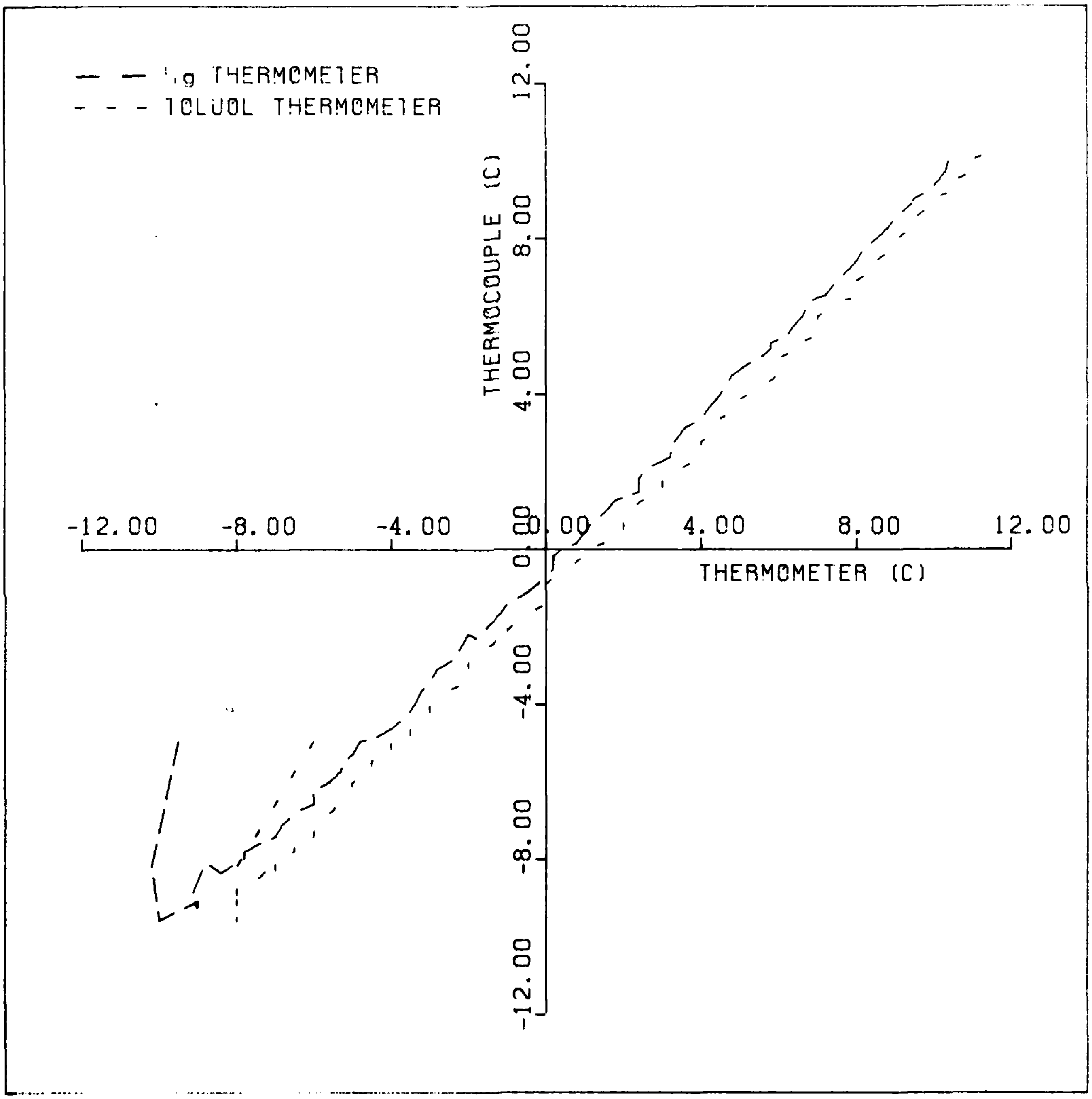
TEST TIME 285.0 MINS

SIDE B

Emissivity Panel Thermocouple		Emissivity Panel Pyrometer	SOFI Panel Pyrometer Data Left	SOFI Panel Pyrometer Data Right
TOP	17.7	18.8	7.2	5.5
	17.4	18.3	5.5	4.1
	17.1	18.8	4.8	3.8
	16.8	18.6	4.2	4.2
	16.5	18.3	3.8	3.6
	16.3	18.3	1.6	1.6
	16.0	17.7	2.7	1.8
	15.6	17.6	1.6	2.2
	15.4	16.6	1.1	1.3
	14.9	16.0	1.6	1.6

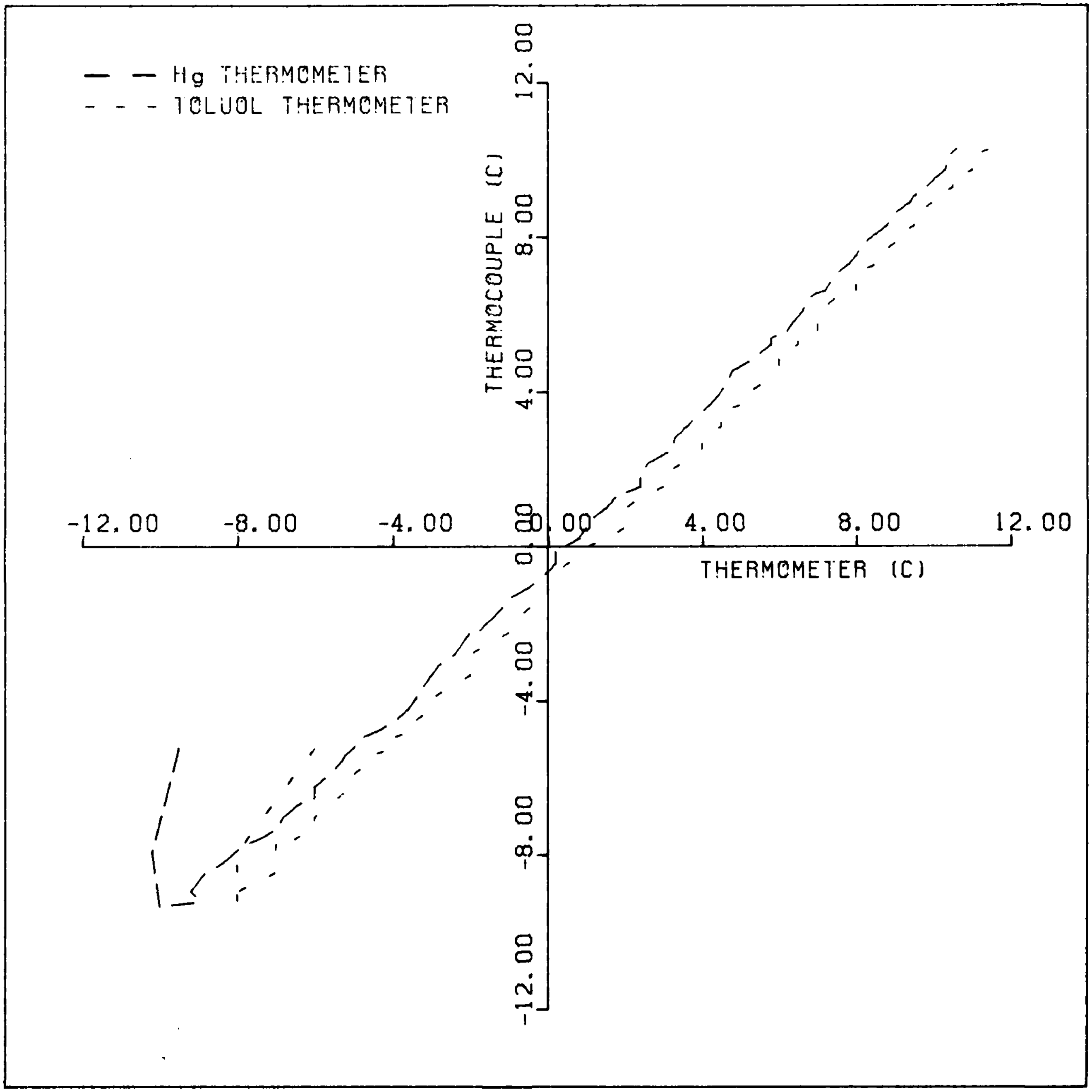
APPENDIX C: THERMOMETER-THERMOCOUPLE TEMPERATURE PLOTS

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL # 10



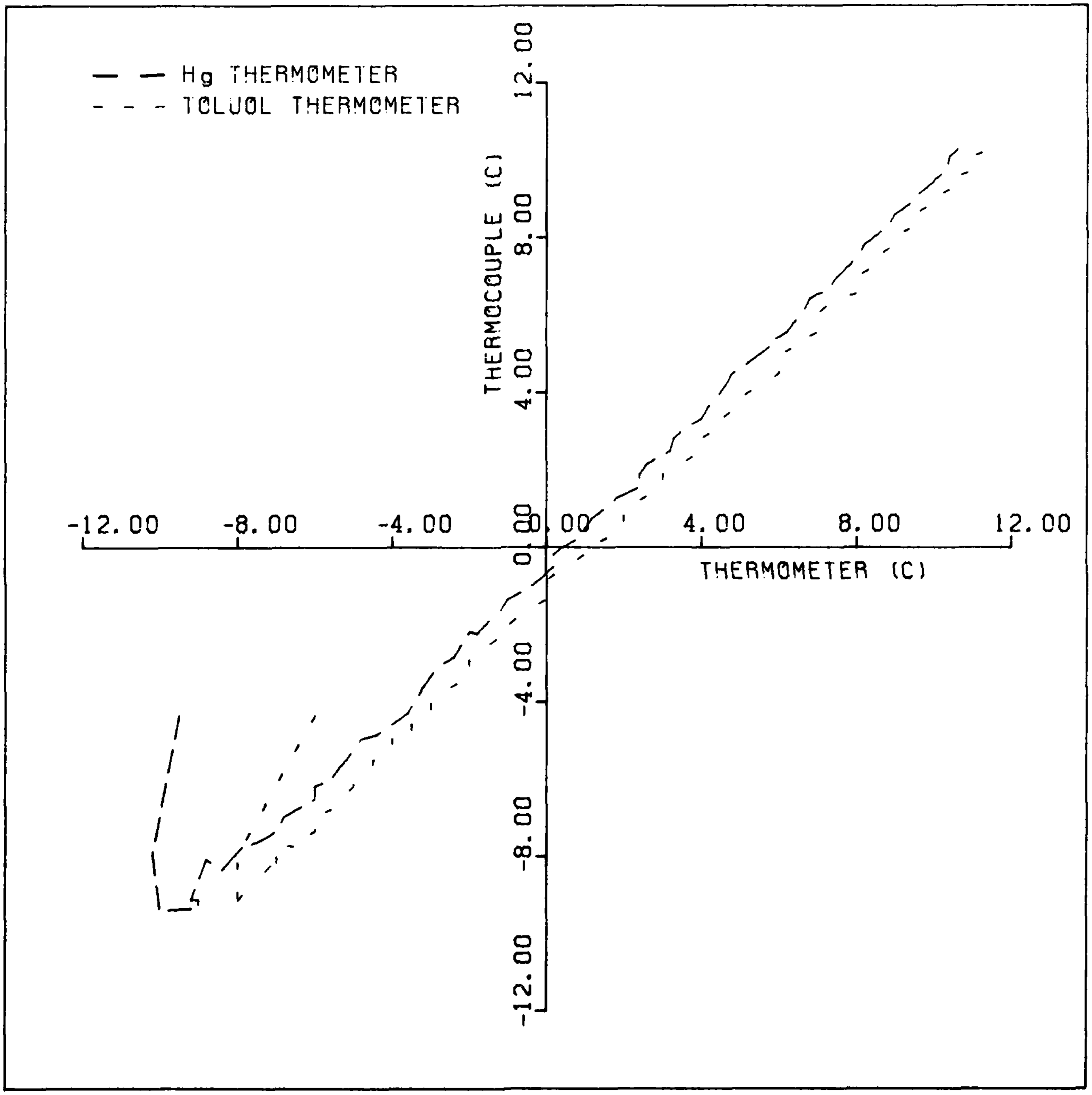
TC = 0.98 *THg - 0.41 TC = 1.00 *TTol - 1.18

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL #11



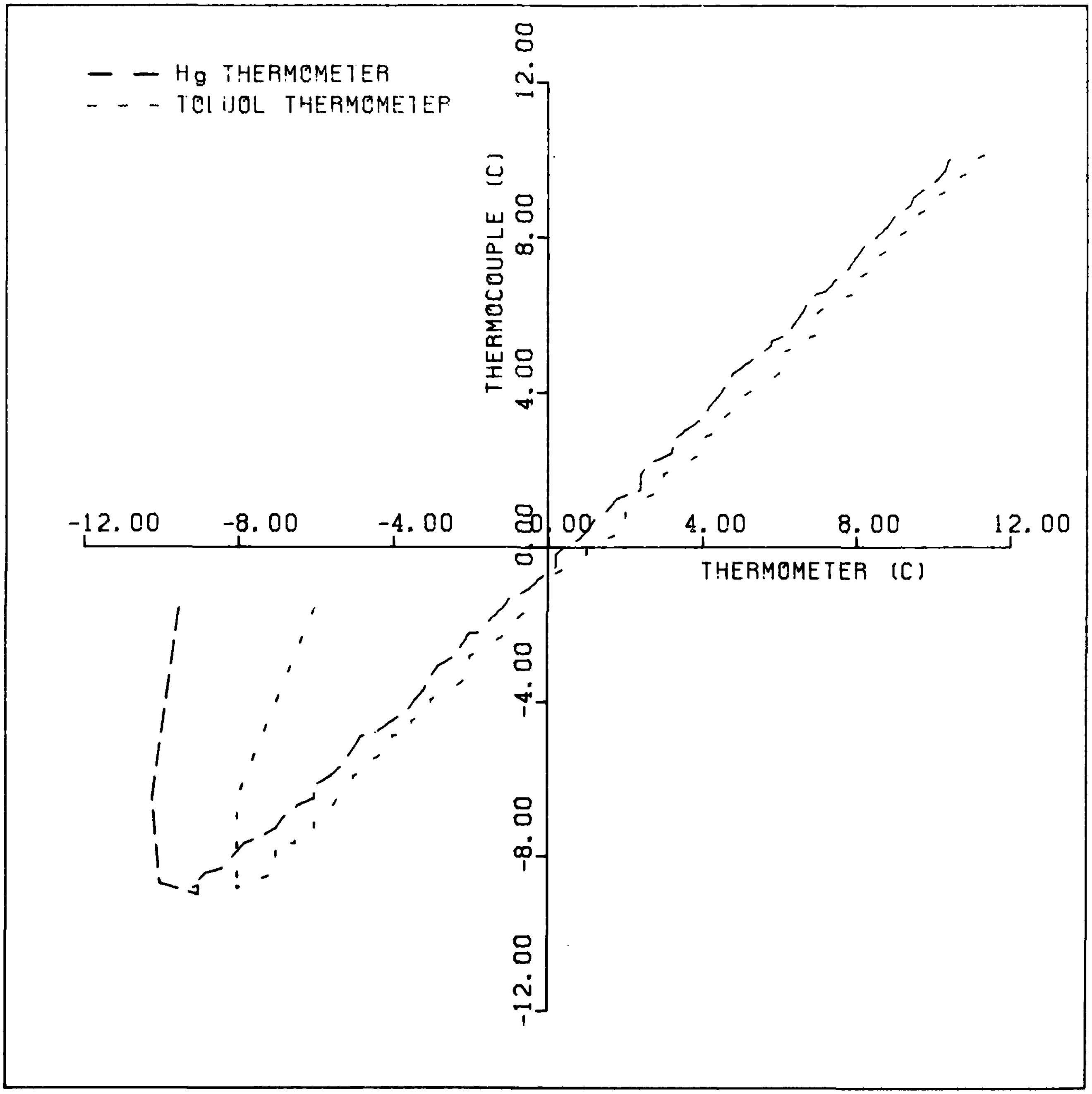
TC = 0.98 *THg - 0.37 TC = 1.00 *TTol - 1.13

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL # 12



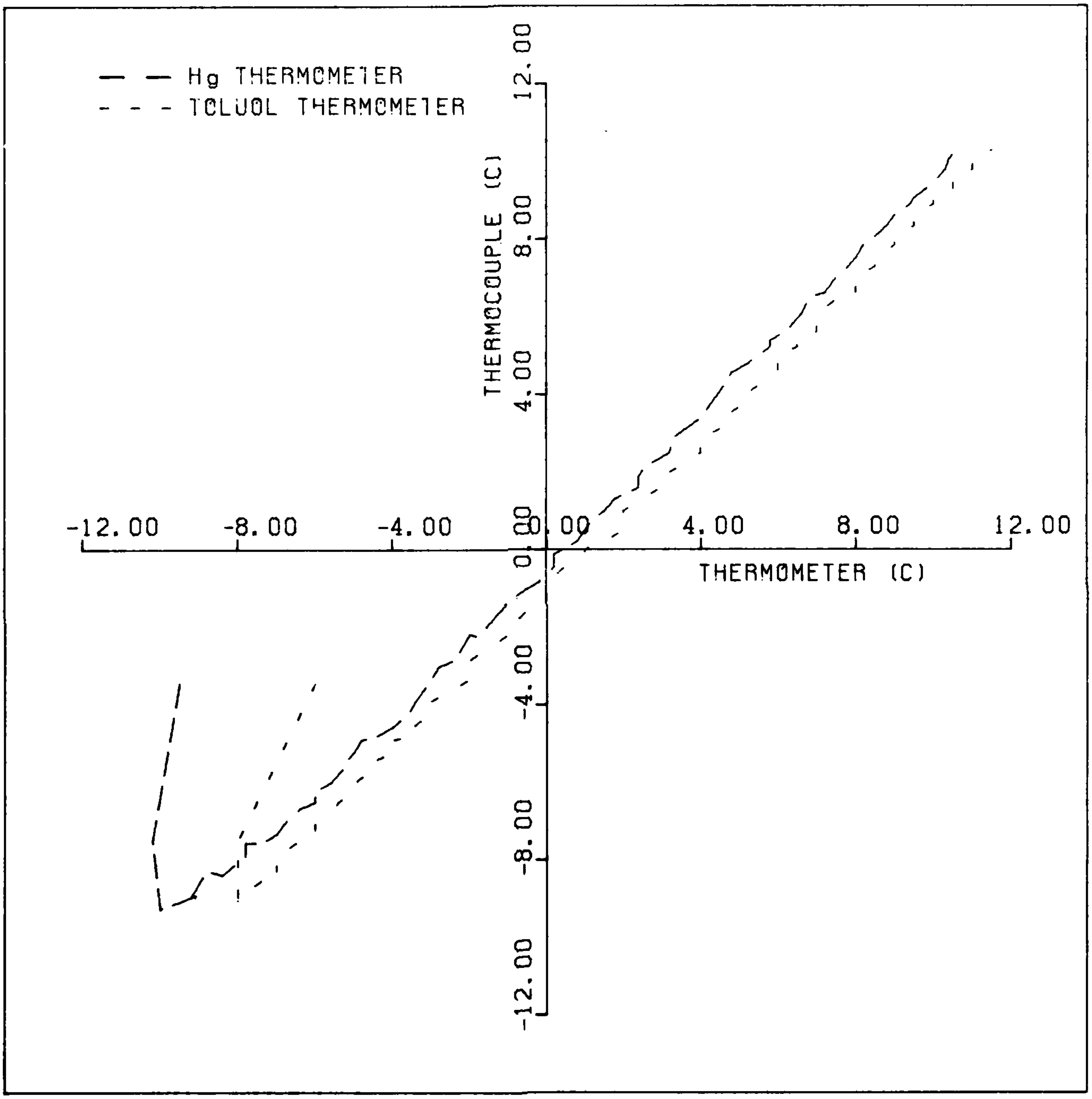
TC = 0.98 *THg - 0.38 TC = 1.00 *TTol - 1.14

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL # 13



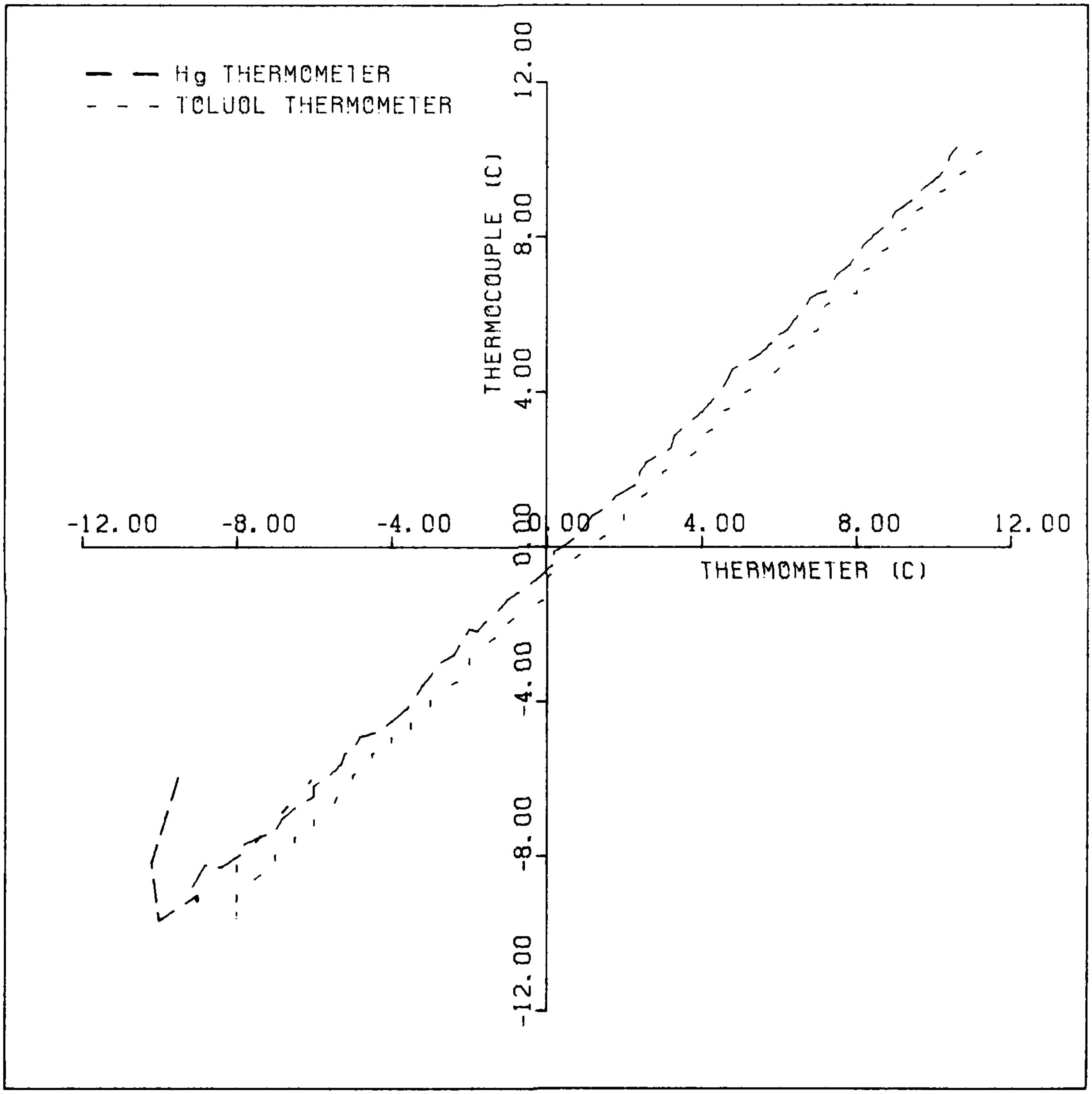
TC = 0.98 *THg - 0.38 TC = 0.99 *TTol - 1.15

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL # 14



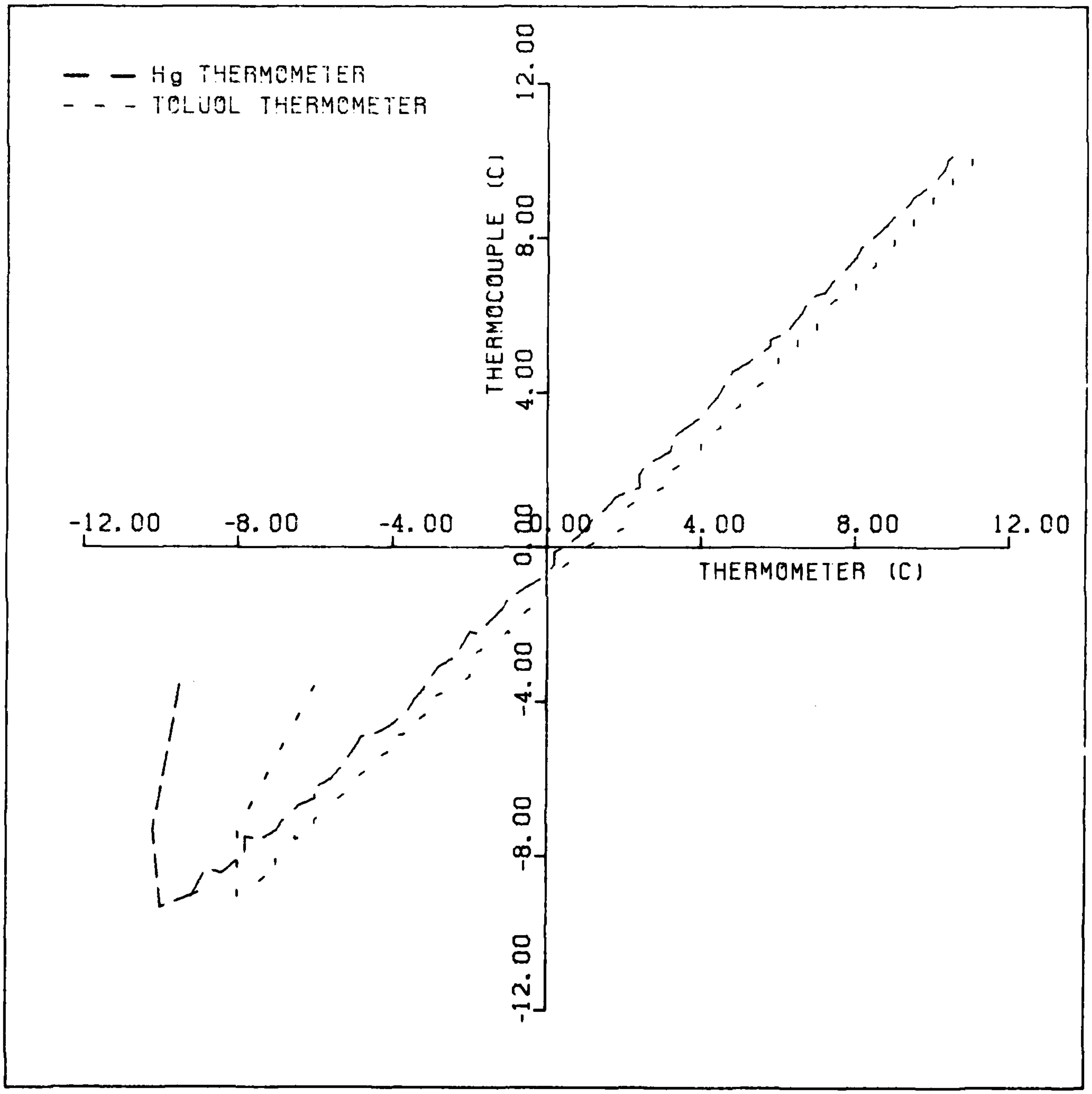
TC = 0.98 *THg - 0.37   TC = 1.00 *TTol - 1.13

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL #15



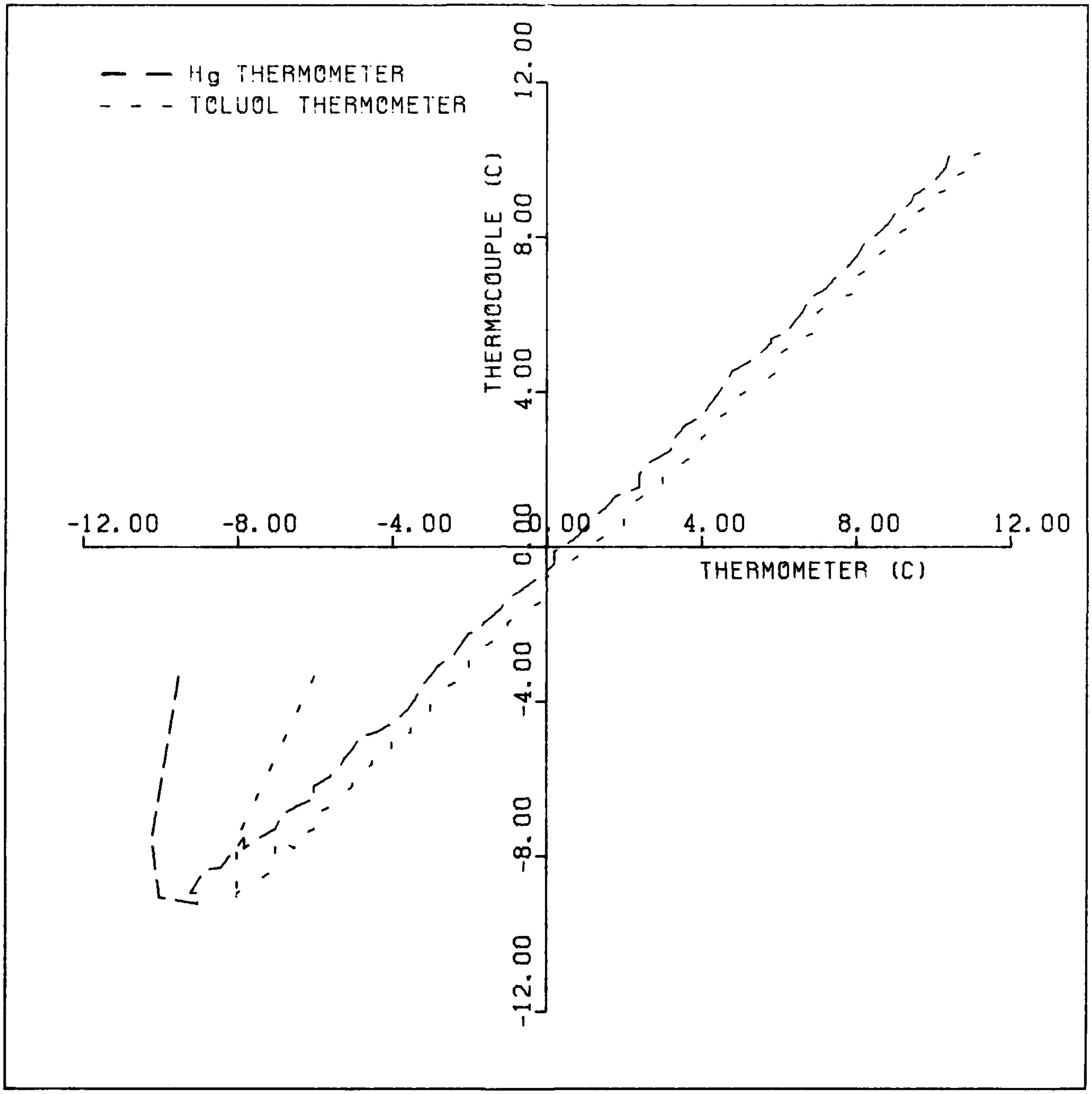
TC = 0.98 *THg - 0.33 TC = 1.00 *TTol - 1.10

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL #16



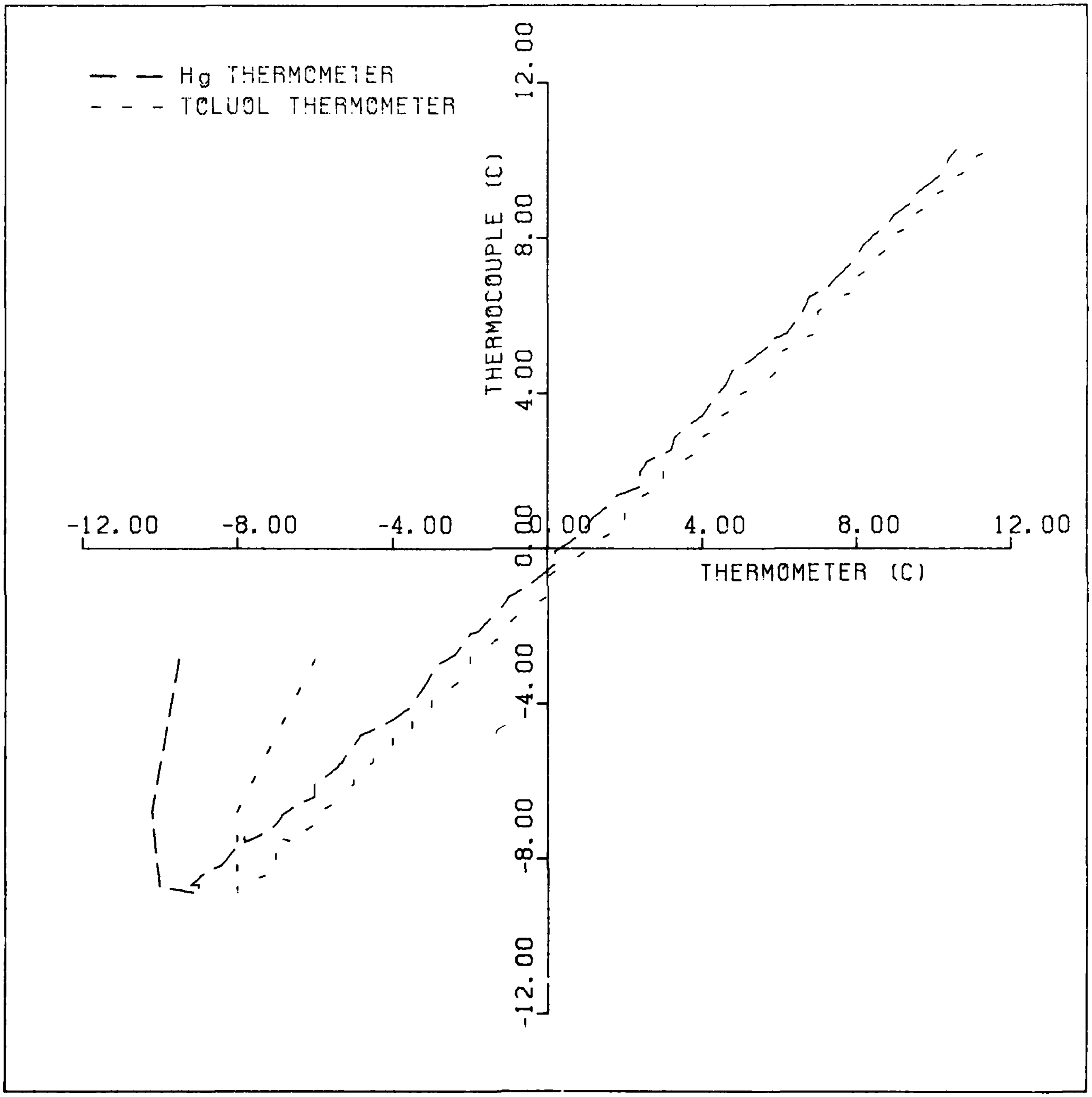
TC = 0.98 *THg - 0.38   TC = 1.00 *TTol - 1.14

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL #17



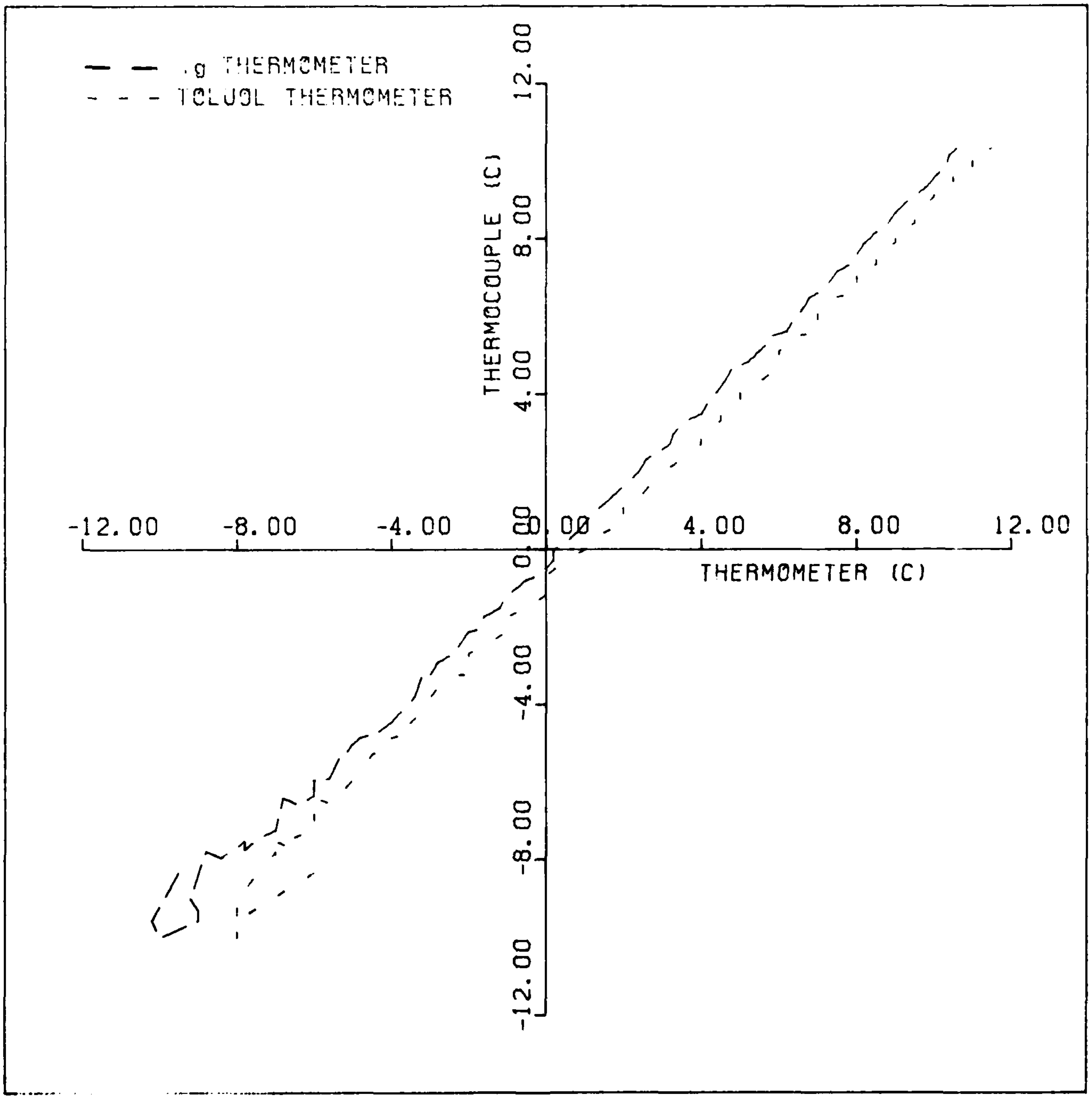
TC = 0.98 *THg - 0.35 TC = 1.00 *TTol - 1.12

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL #18



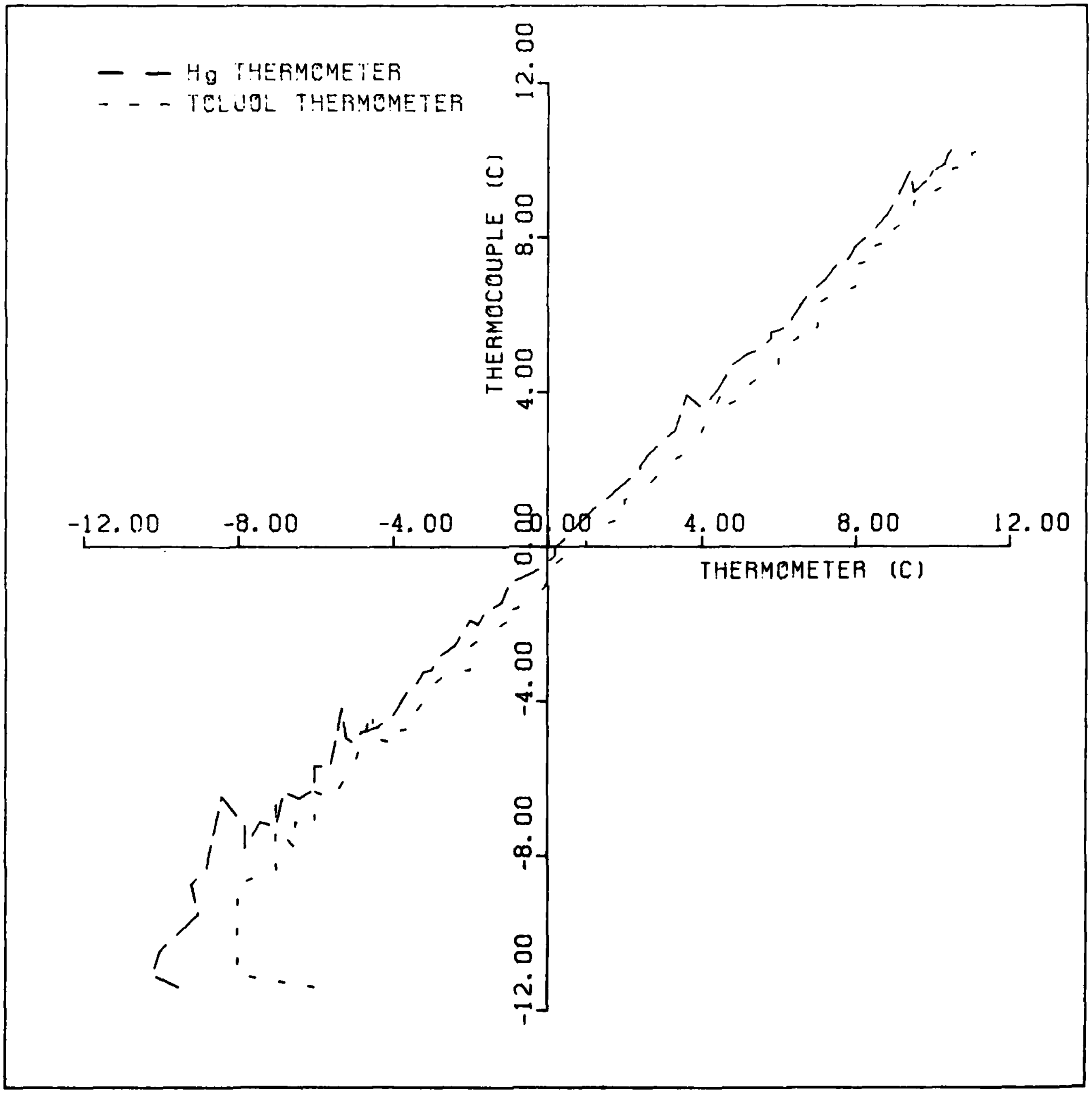
TC = 0.97 *THg - 0.28 TC = 0.99 *TTol - 1.04

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL #20



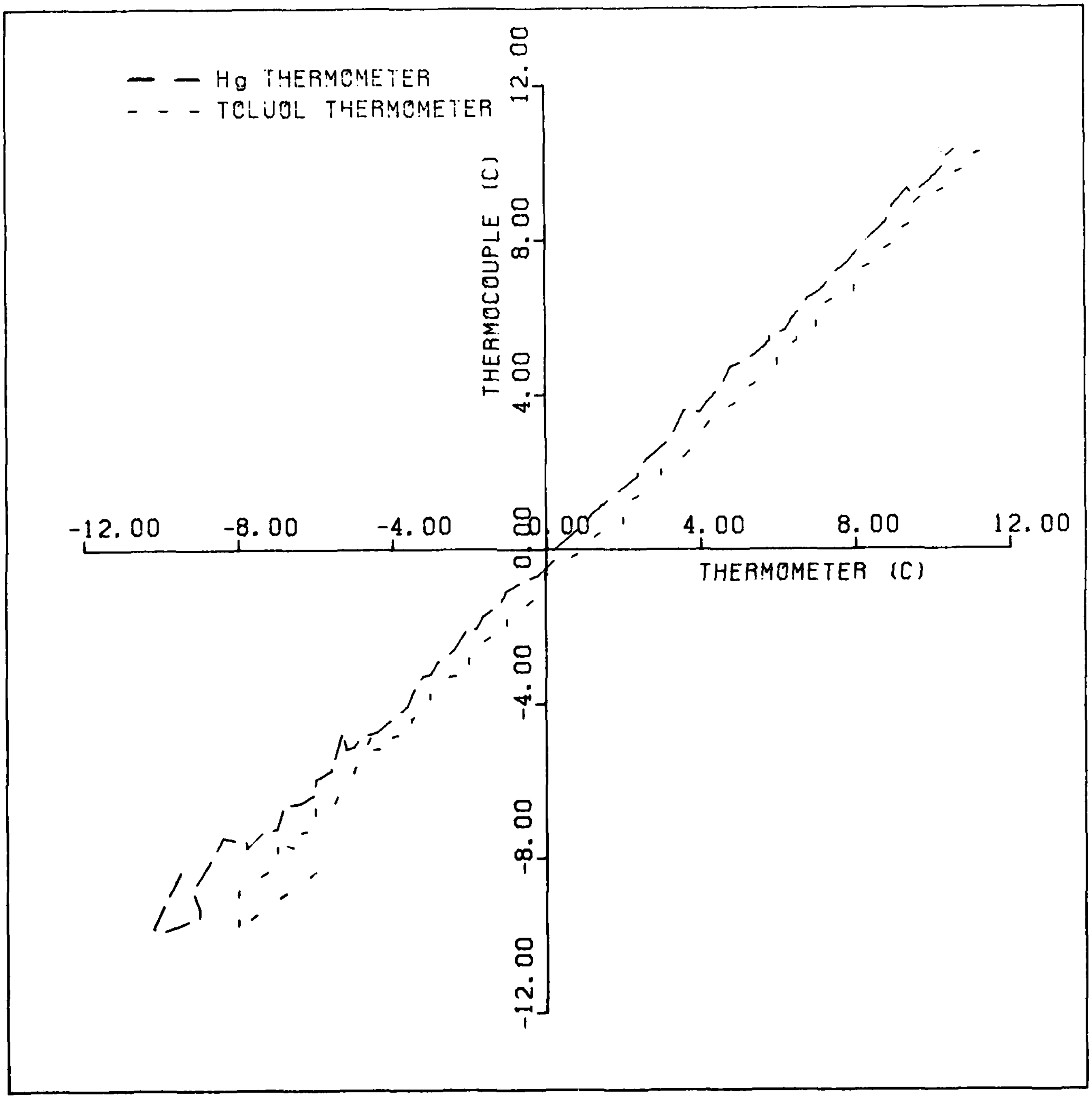
TC = 0.97 *THg - 0.21 TC = 0.99 *TTol - 0.97

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL #21



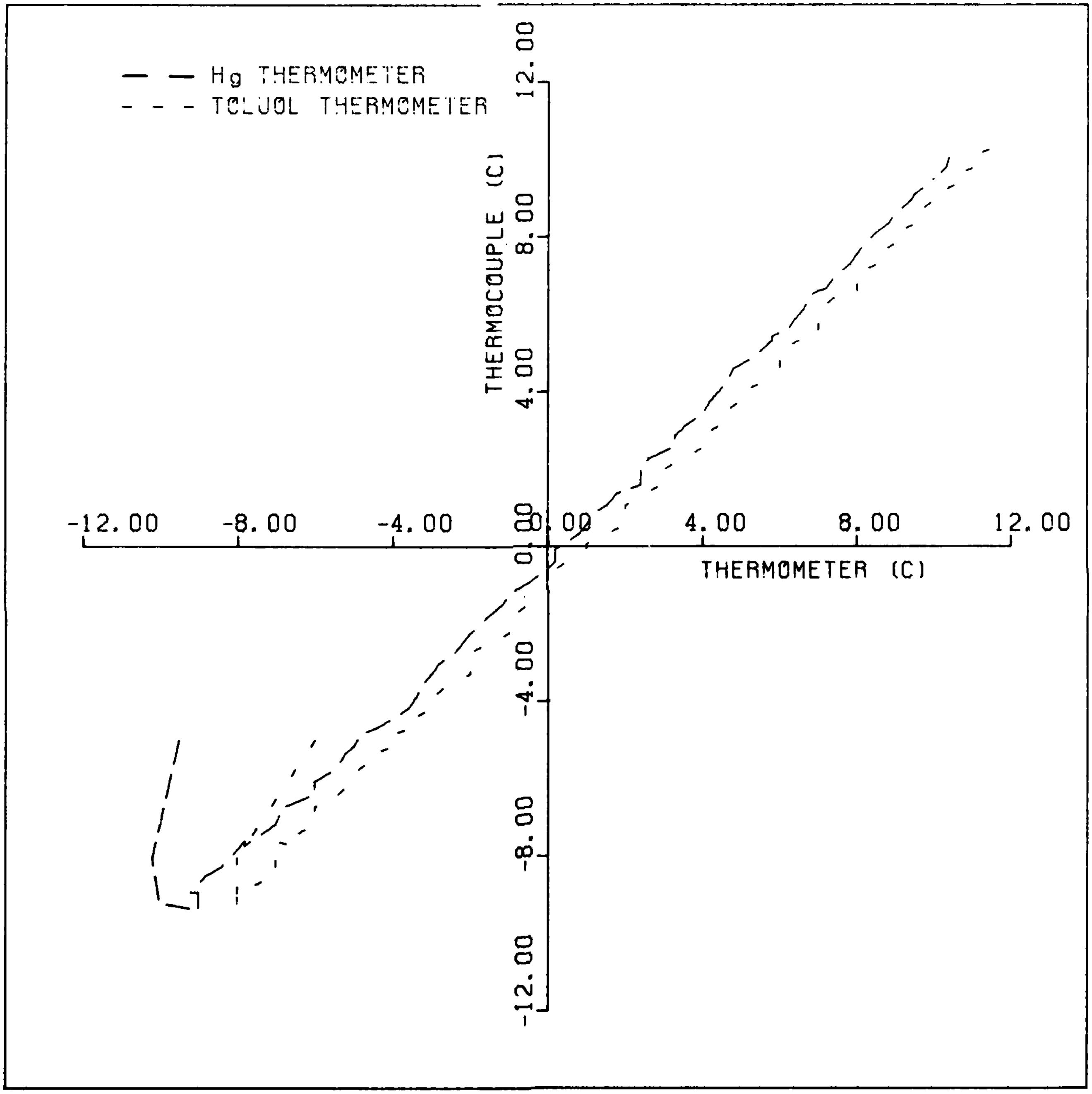
TC = 0.97 *THg - 0.07 TC = 0.98 *TTol - 0.82

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL #22



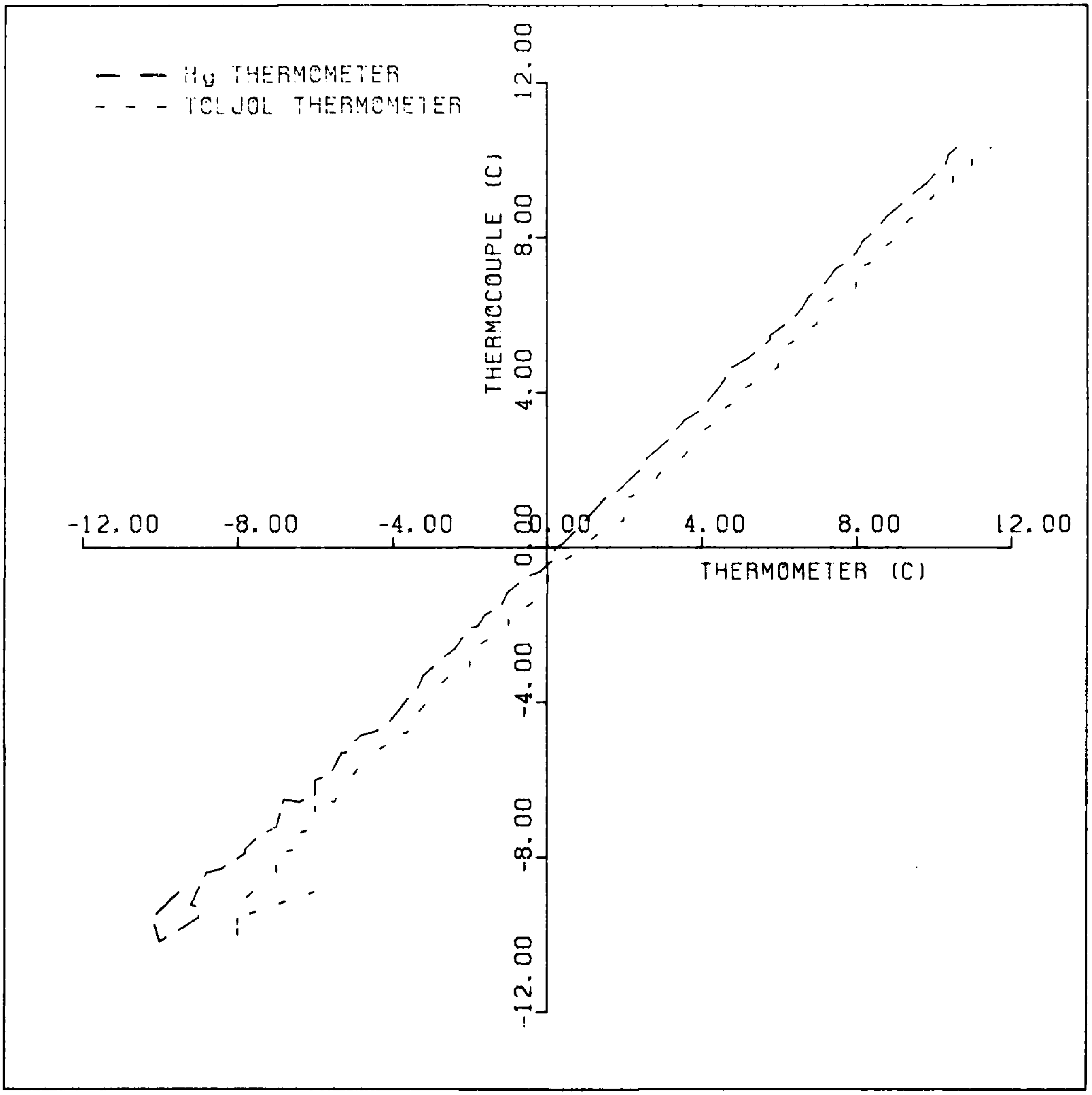
TC = 0.97 *THg - 0.17 TC = 0.99 *TTol - 0.93

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL #23



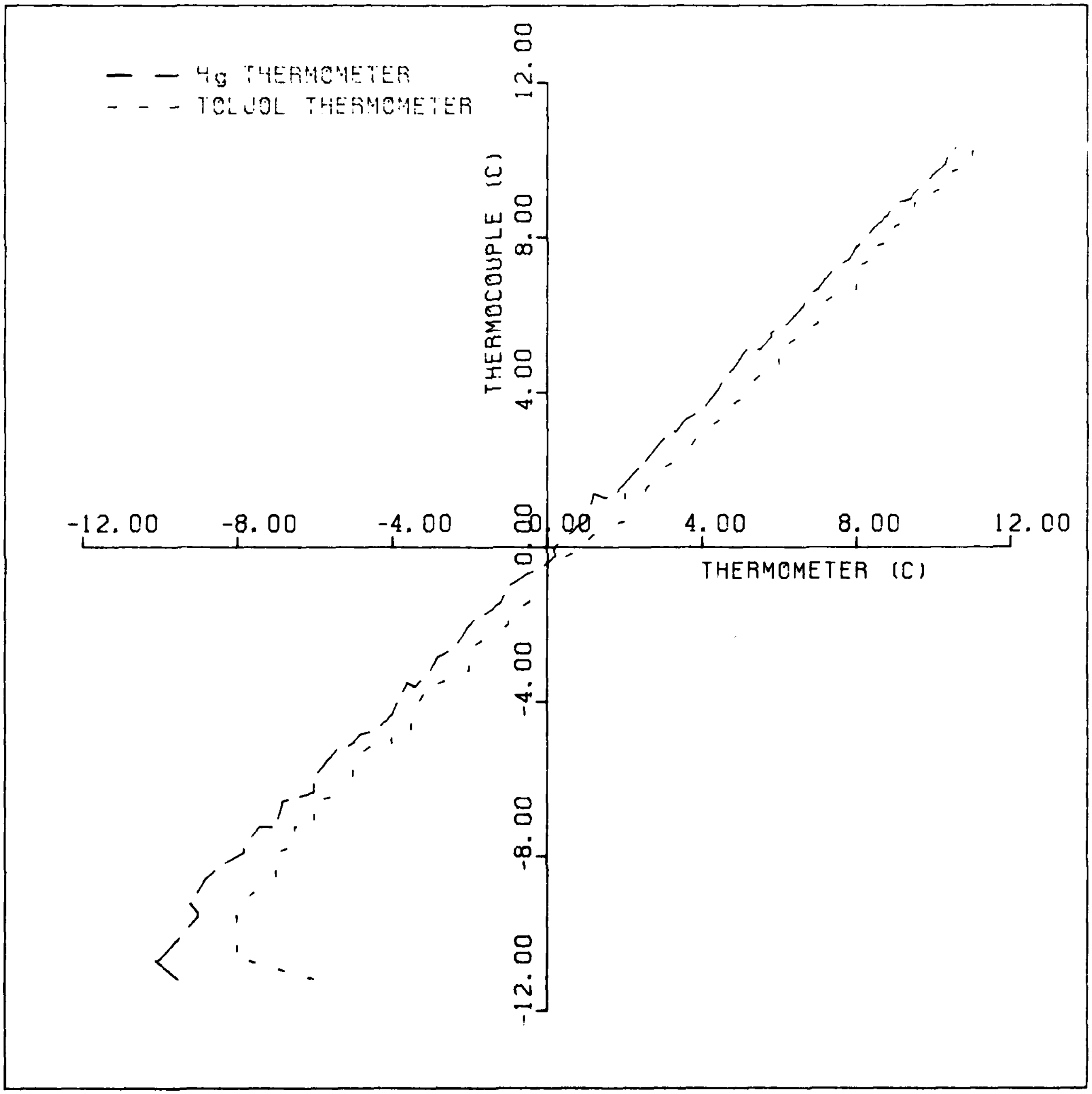
TC = 0.98 *THg - 0.30 TC = 0.99 *TTol - 1.06

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL # 24



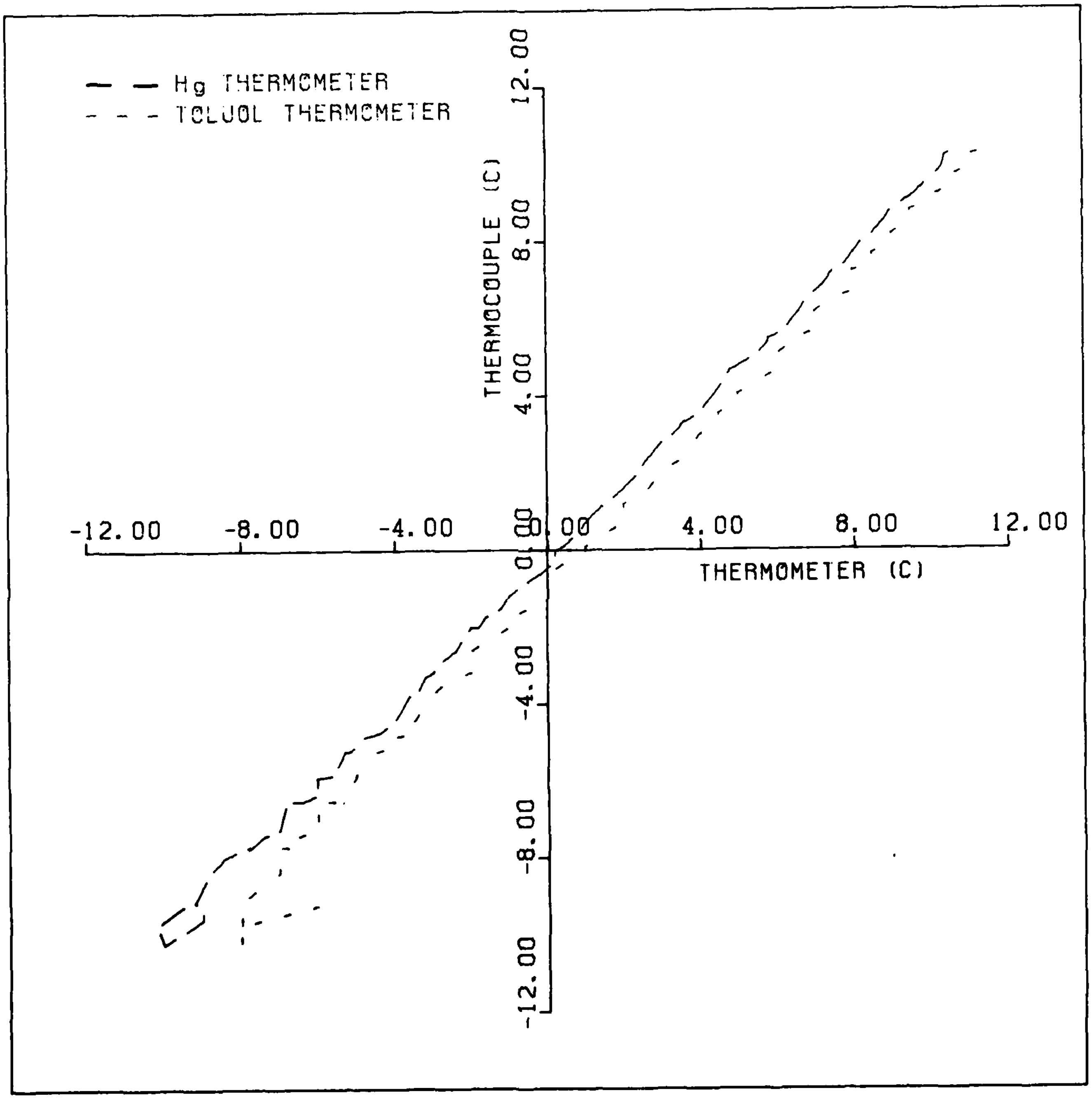
TC = 0.98 *THg - 0.21   TC = 1.00 *TTol - 0.98

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL #25



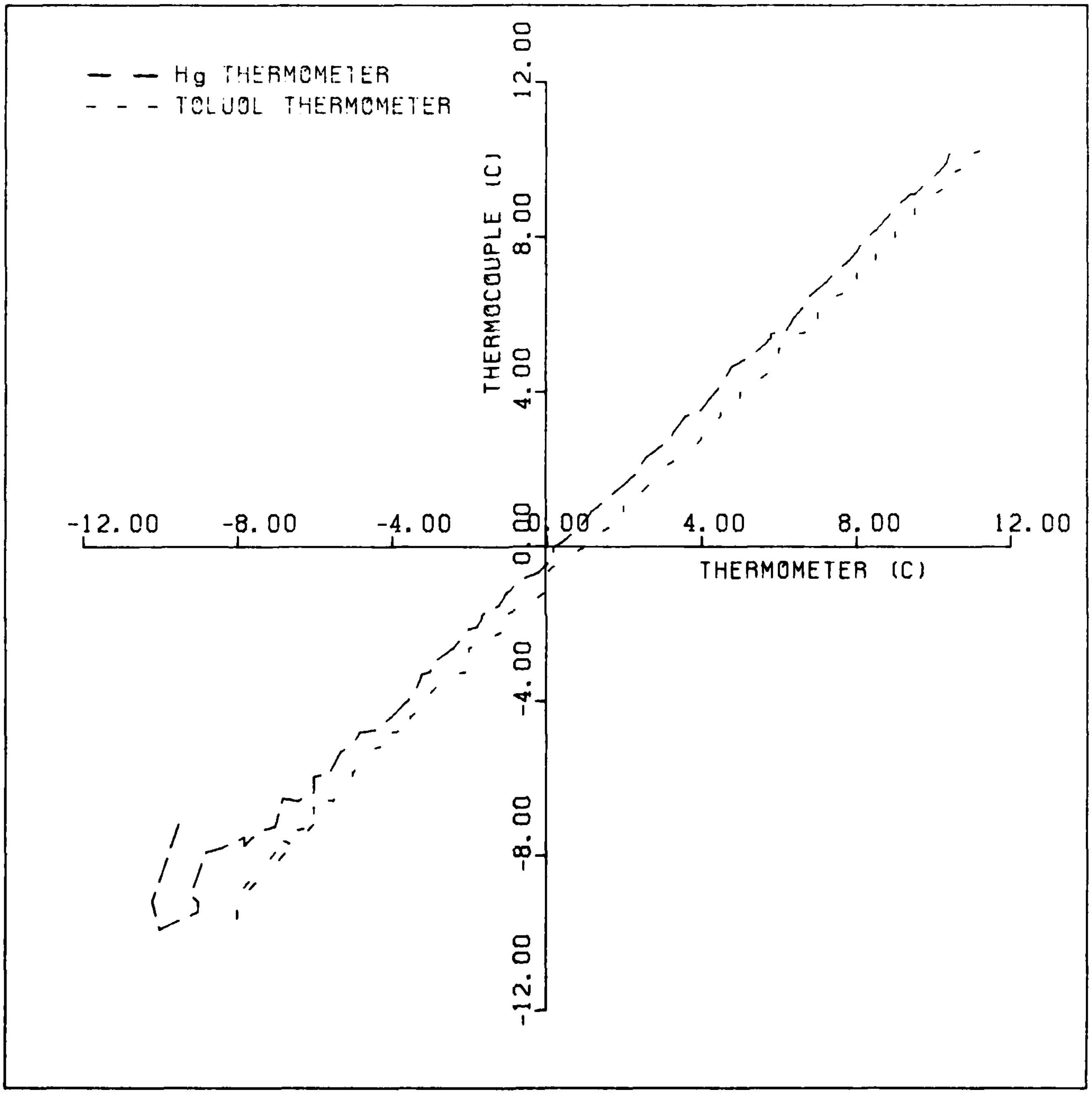
TC = 0.98 *THg - 0.16 TC = 1.00 *TTol - 0.92

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL #26



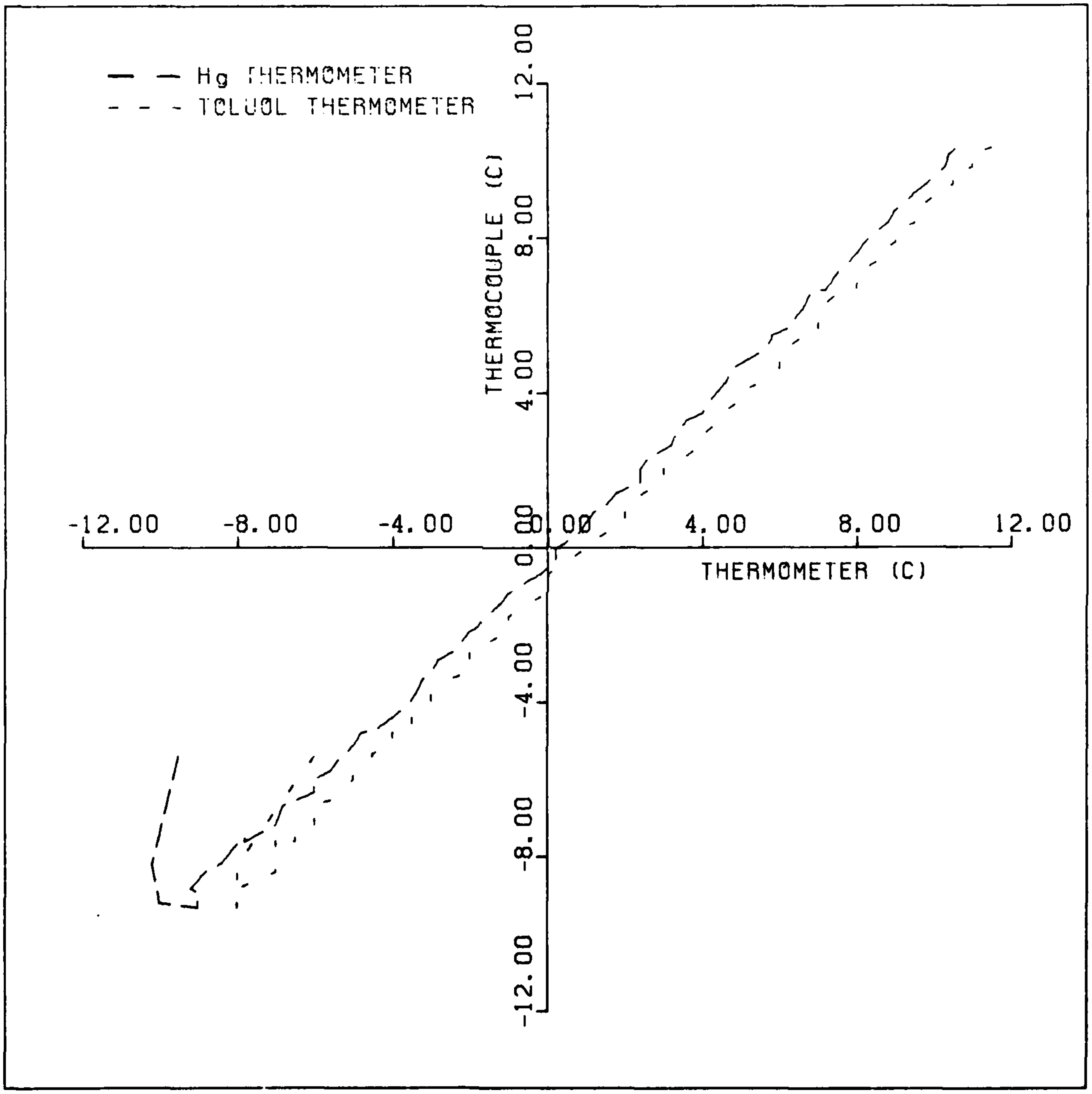
TC = 0.98 *THg - 0.20 TC = 0.99 *TTol - 0.96

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL # 27



TC = 0.97 *THg - 0.20 TC = 0.99 *TTol - 0.96

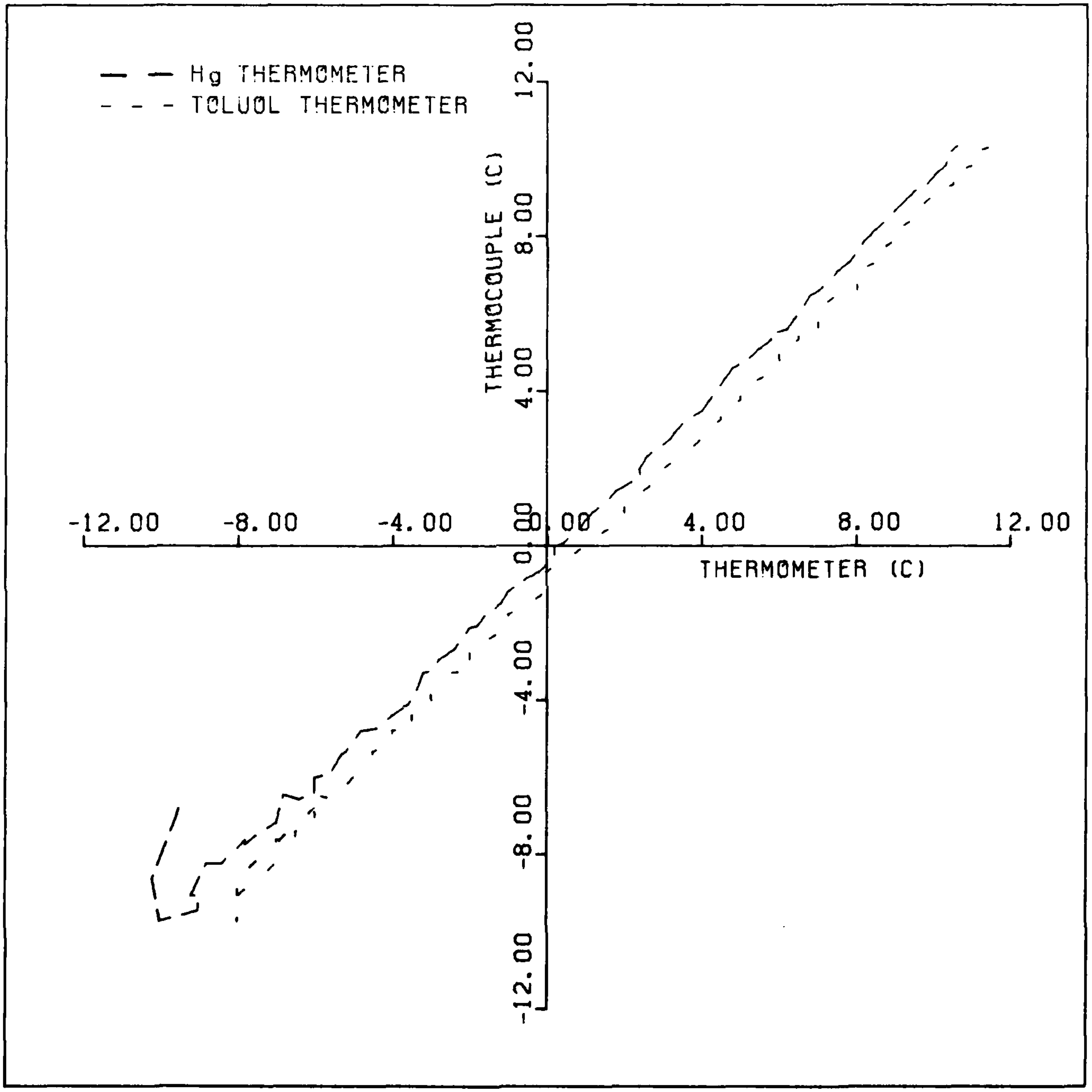
THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL # 28



TC = 0.98 *THg - 0.63

TC = 0.99 *TTol - 0.99

THERMOMETER READING VS. THERMOCOUPLE READING
CHANNEL # 29



TC = 0.98 *THg - 0.24

TC = 0.99 *TTol - 1.01

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An experimental investigation of potential icing of the Space Shuttle external tank / by M.G. Ferrick, K. Itagaki, G.E. Lemieux and S.E. Minas. Hanover, N.H.: Cold Regions Research and Engineering Laboratory; Springfield, Va.: available from National Technical Information Service, 1982.
vi, 309 p., illus.; 28 cm. (CRREL Report 82-25.)
Prepared for U.S. Air Force Space Division by U.S. Army Cold Regions Research and Engineering Laboratory under MIPR FY 76168200394.
1. Ice. 2. Space shuttle. 3. Fuel tanks.
I. Itagaki, K. II. Lemieux, G.E. III. Minas, S.E.
IV. United States. Army. Corps of Engineers.
V. Army Cold Regions Research and Engineering Laboratory. VI. Series: CRREL Report 82-25.